# Beyond Access & AAC:

Membership, Participation, and Learning for Students with Complex Communication Needs

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WI Department of Public Instruction
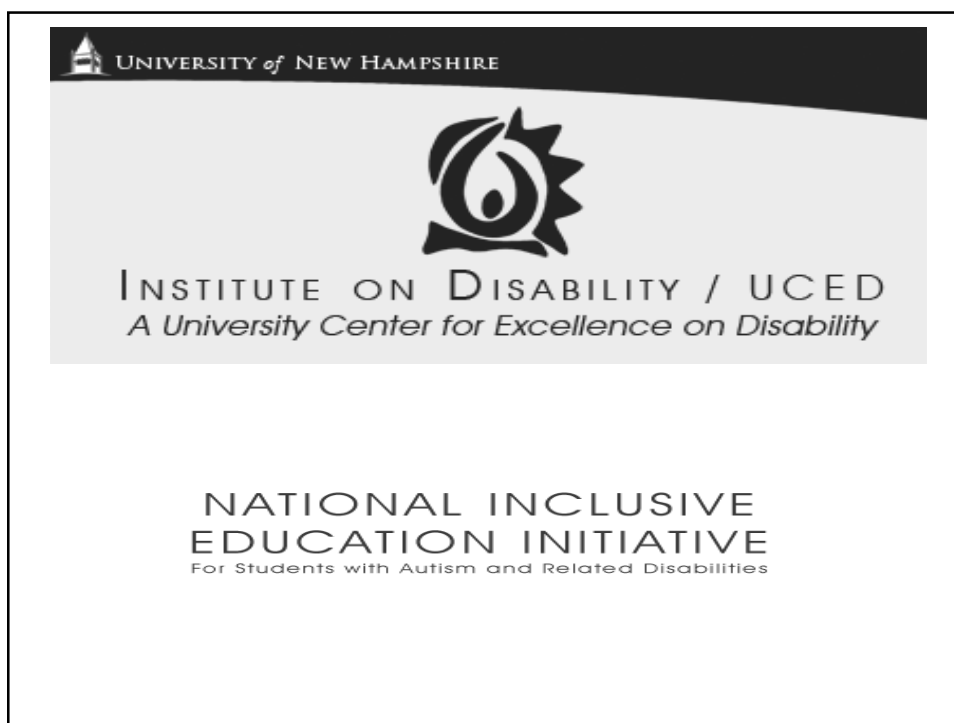**Annual Cognitive Disabilities Conference**
August 11, 2010

The Beyond Access Model
Promoting Membership, Participation, and Learning for Students with Disabilities in the General Education Classroom

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INSTITUTE ON DISABILITY
UNIVERSITY OF NEW HAMPSHIRE
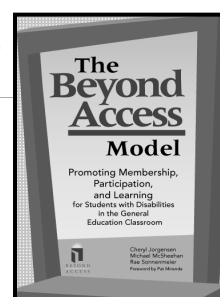
Rae M. Sonnenmeier, Cheryl M. Jorgensen,
Laurie Lambert

Institute on Disability/UCED
University of New Hampshire

http://www.iod.unh.edu

Students, families, and
members of the school communities

UNIVERSITY *of* NEW HAMPSHIRE

INSTITUTE ON DISABILITY / UCED
A University Center for Excellence on Disability

NATIONAL INCLUSIVE
EDUCATION INITIATIVE
For Students with Autism and Related Disabilities

The Good Life!

- "If all my possessions were taken from me with one exception, I would choose to keep the power of communication, for by it I would soon regain all the rest"
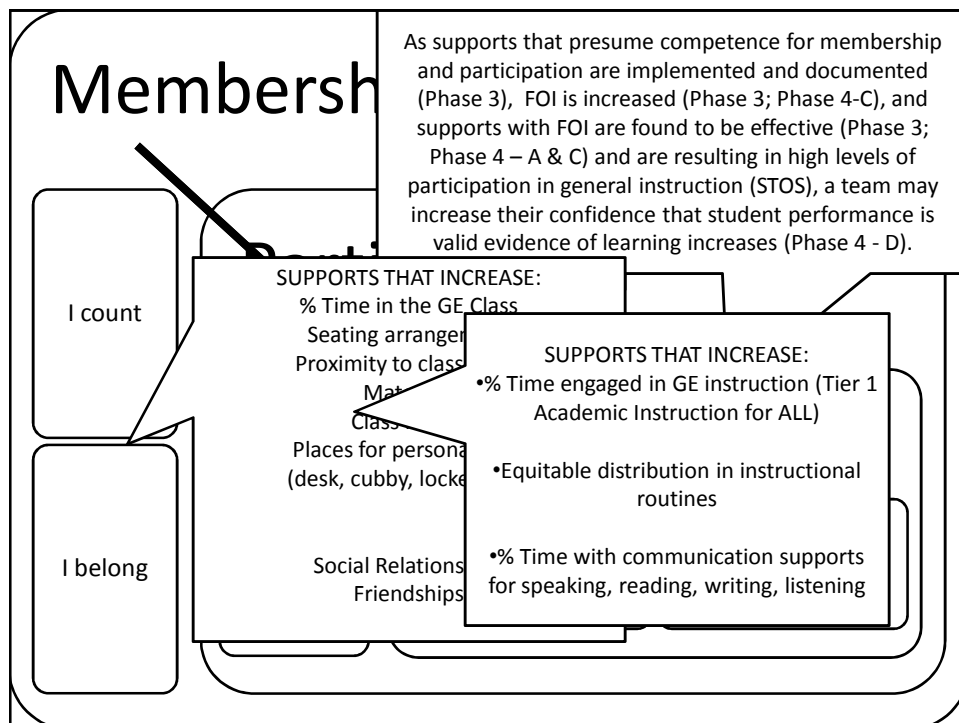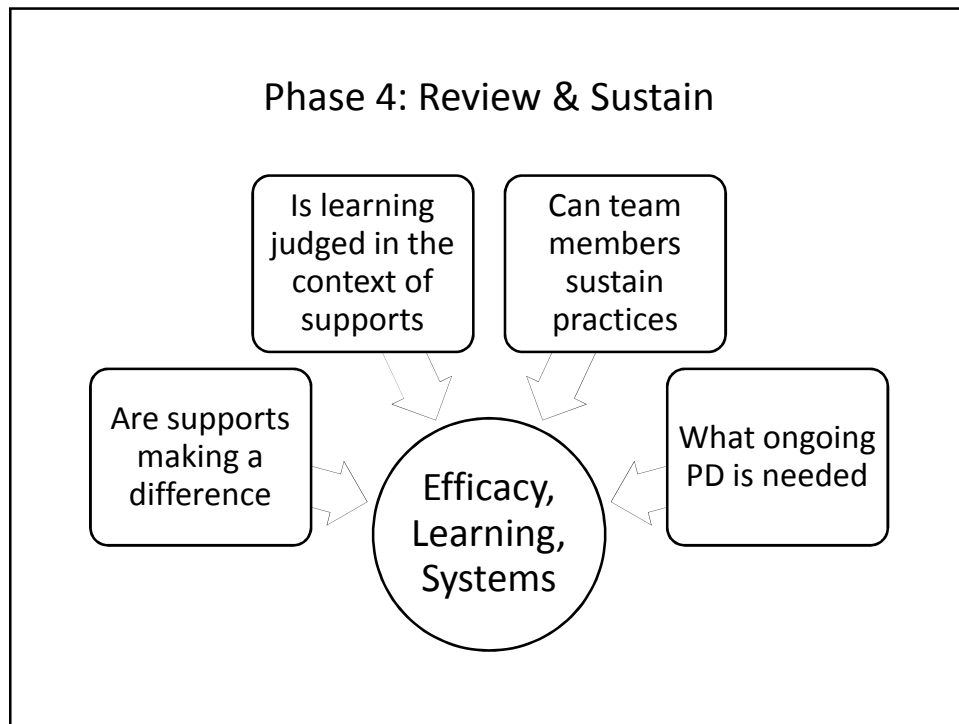 — Daniel Webster
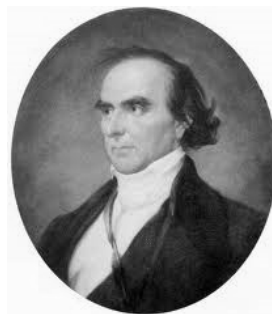
Quotable Quotes

- Language exerts hidden power, like a moon on the tides.
    – Rita Mae Brown, US author and social activist, 1988

- If the English language made any sense, a catastrophe would be an apostrophe with fur.
    – Doug Larson

What we'll do this morning

- Review Beyond Access Model
- Consider AAC – best practices & barriers
- Apply those considerations in the Beyond Access Model

Phase 4: Review & Sustain

Is learning judged in the context of supports

Can team members sustain practices

Are supports making a difference

Efficacy, Learning, Systems

What ongoing PD is needed

Membersh

As supports that presume competence for membership and participation are implemented and documented (Phase 3), FOI is increased (Phase 3; Phase 4-C), and supports with FOI are found to be effective (Phase 3; Phase 4 – A & C) and are resulting in high levels of participation in general instruction (STOS), a team may increase their confidence that student performance is valid evidence of learning increases (Phase 4 - D).

I count

I belong

SUPPORTS THAT INCREASE:
% Time in the GE Class
Seating arranger
Proximity to class
Mat
Class
Places for persona
(desk, cubby, locke

Social Relations
Friendships

SUPPORTS THAT INCREASE:
•% Time engaged in GE instruction (Tier 1 Academic Instruction for ALL)

•Equitable distribution in instructional routines

•% Time with communication supports for speaking, reading, writing, listening

Levels of Confidence & Focus of Beyond Access

High (Learning)	• Data demonstrate efficacy of supports (increase MPL) • Most supports are delivered with fidelity
Medium (Partic/Learn)	• Some data demonstrate efficacy of supports • Some supports are delivered with fidelity
Low (Membership & Participation)	• Team has not systematically evaluated efficacy and fidelity • Data is not used to guide such decisions

Impact Study

McSheehan, Jorgensen, Sonnenmeier, & Turner (2006) Beyond Communication Access: Promoting learning of the general education curriculum by students with significant disabilities. *Topics in Language Disorders*, *26(3),* p. 266-290.

- 38 participants completed BA Impact Survey 6 months following the initiation of the BA model
  - Likert scale ratings
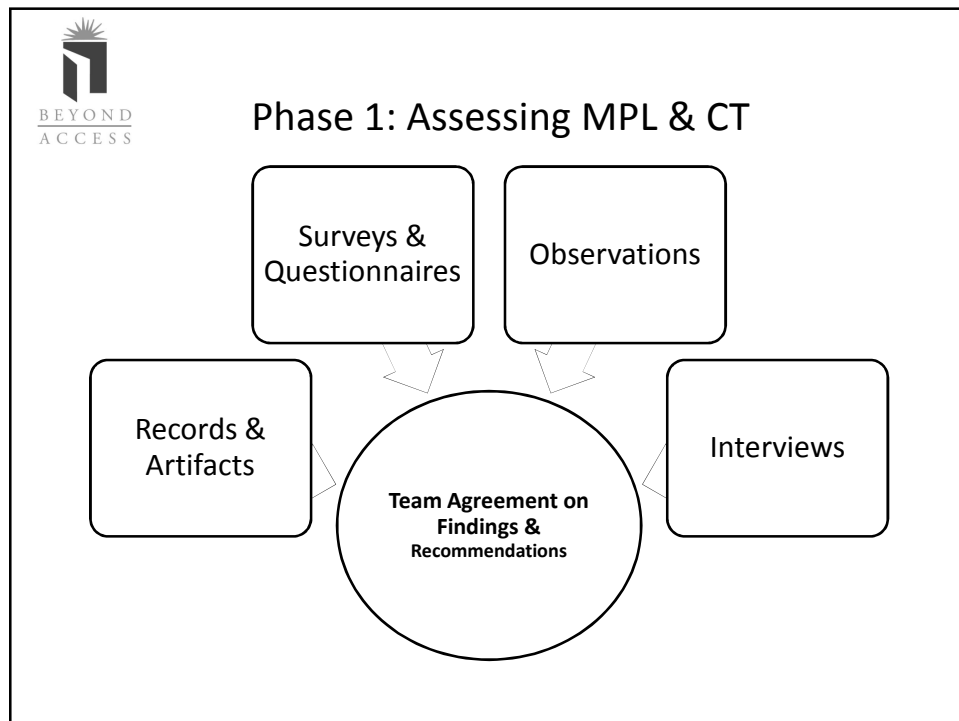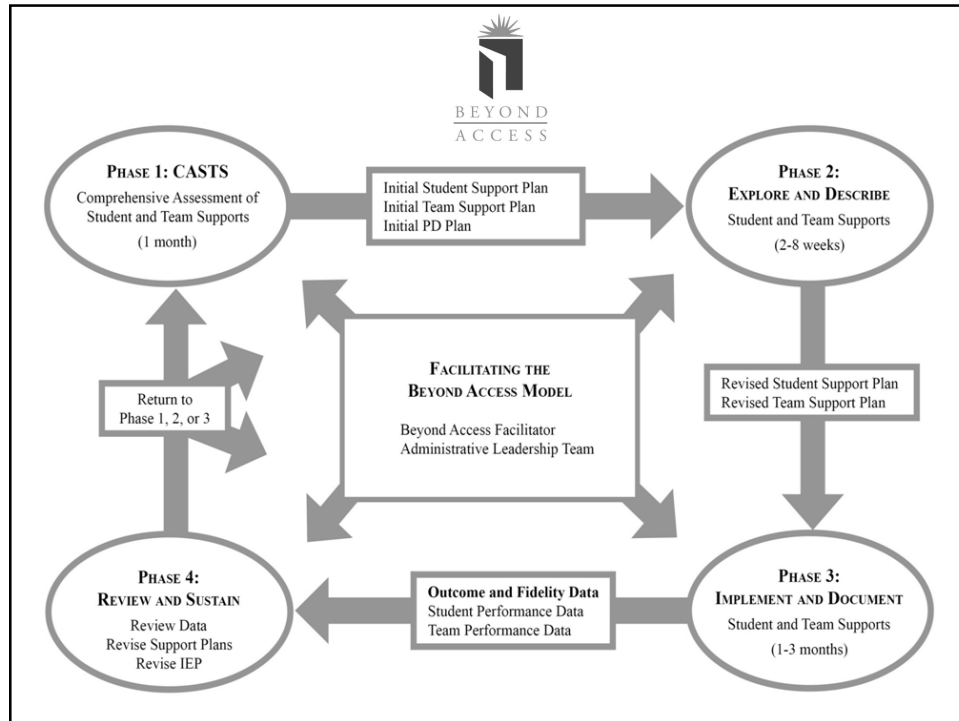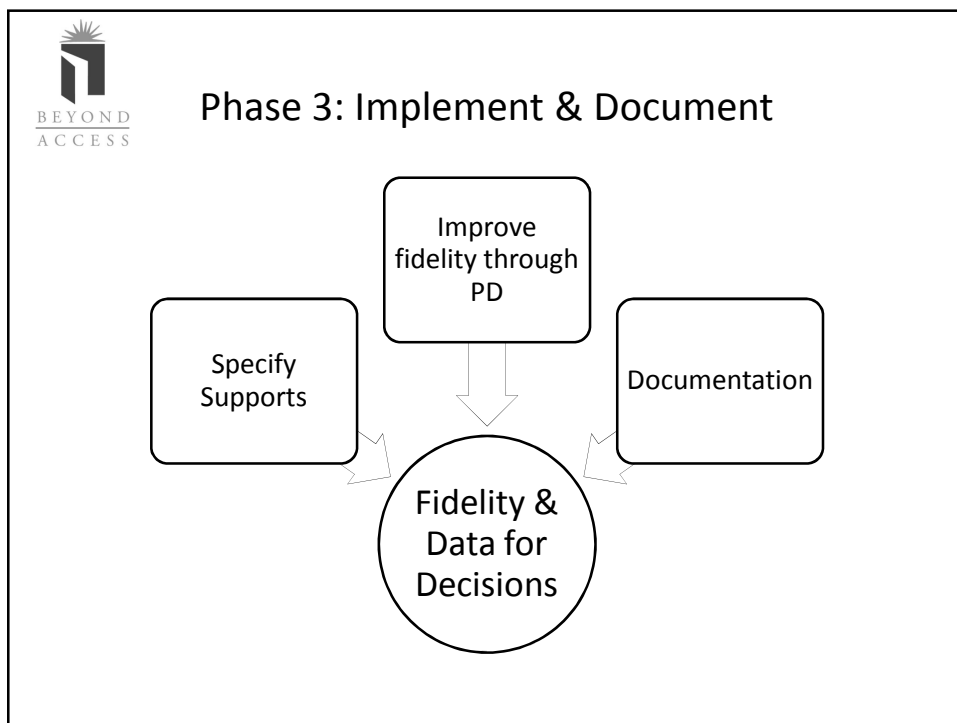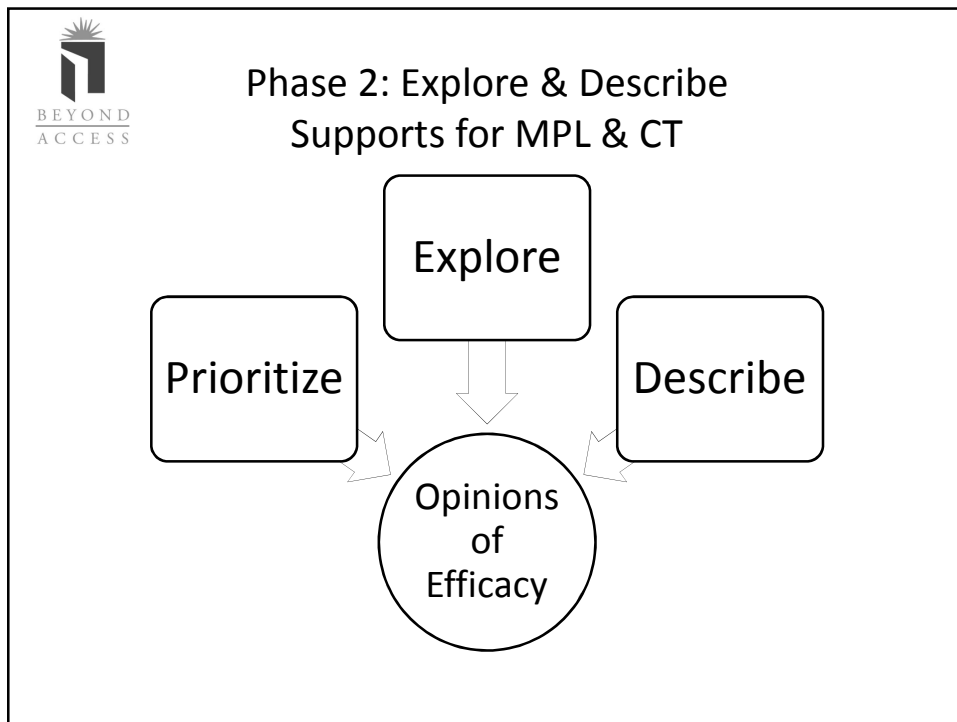 - Closed- and open-ended survey questions
- Content analysis

Impact Study: Membership & Participation
(McSheehan, et. al., 2006)

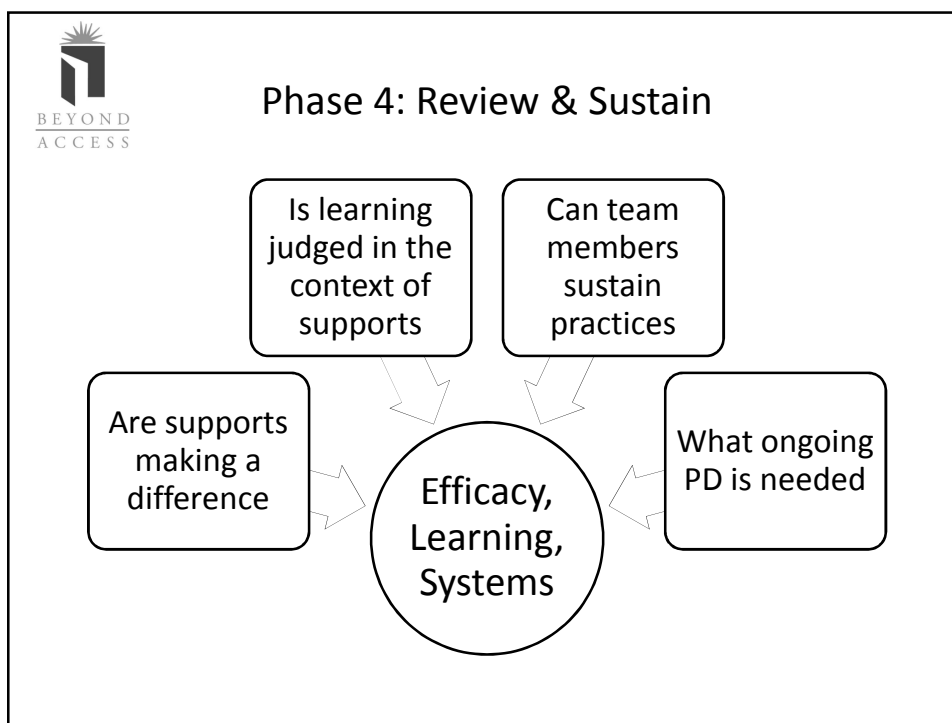|	C	N	S	Ty	Ti
Baseline	0-20%	0-20%	20-40%	40-60%	20-40%
6 Months	60-80%	20-40%	60-80%	60-80%	60-80%
9 Months	80%	80-90%	80-100%	90-100%	90-100%

Impact Study: LEARNING
(McSheehan, et. al., 2006)

- 56 examples cited of students' demonstration of learning

- Included examples for reading, writing, and math

Phase 1: Assessing MPL & CT

Phase 2: Explore & Describe Supports for MPL & CT

Explore
Prioritize
Describe
Opinions of Efficacy

Phase 3: Implement & Document

Improve fidelity through PD
Specify Supports
Documentation
Fidelity & Data for Decisions

Phase 4: Review & Sustain

Is learning judged in the context of supports

Can team members sustain practices

Are supports making a difference

Efficacy, Learning, Systems

What ongoing PD is needed

What is Augmentative and Alternative Communication?

- Communication supports for people who are unable to meet their daily communication needs through natural modes such as speech, gestures, or handwriting

- AAC

AAC :
The goal is Interactive Communication

- Success in life can be directly related to the ability to communicate. Full interpersonal communication substantially enhances an individual's potential for education, employment, and independence.
- Therefore, it is imperative that the goal of augmentative and alternative communication (ACC) use be **the most effective interactive communication possible.** Anything less represents a compromise of the individual's human potential.

"In the broadest sense, the goal of AAC interventions is to assist individuals with severe communication disorders to **become communicatively competent** today in order to meet their **current** communication needs and to prepare them to be communicatively competent tomorrow in order to meet their **future** communication needs." (Mirenda, 2001, p.142)

7 States AA-AAS & AAC Findings

- National Alternate Assessment Study using the Learner Characteristics Inventory
- Survey represented all students on the AA-AAS in each state
- Found:
  – Highly varied levels of expressive/receptive language use, but MOST students 70% use symbolic language and oral speech.
  – For the other 30% of students who are beginning and emerging in their use of symbolic language, only 50% are using augmentative communication systems

  – ½ who need AAC are getting it
 – Of those, no measure of quality

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Approximately 70% of NH Alternately Assessed Students (N=~1300) NEED but are NOT PROVIDED with A.T.

Do Not Need 15%

NEED A.T. 85%

Provided with A.T. 15%

NOT Provided with A.T. 70%
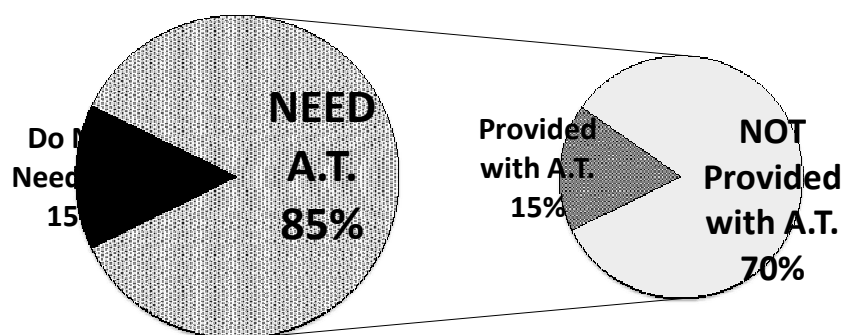
Students Who ARE Provided with A.T. May Not Have Quality or Appropriate A.T.

- There are no agreed upon measures of "quality" regarding the provision of assistive technology (for reading, writing, and communicating) for students participating on the alternate assessment
  - Example: A student with low quality communication technology may be 'counted' as getting appropriate support even if it is mismatched to the student's needs.

Aided Language Development

Aided Language ➔ Aided Language ➔
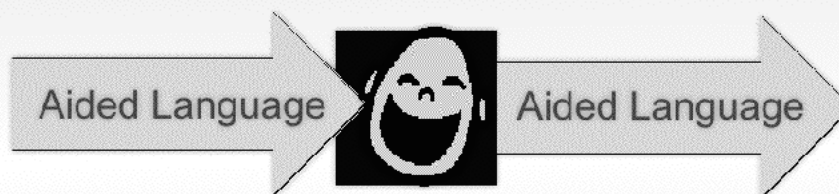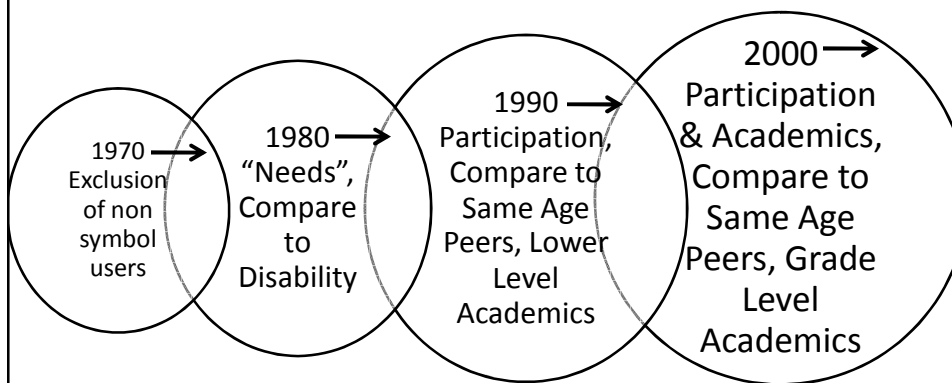
www.lburkhart.com/hand_ALS_Aud_Scan.htm

Experiencing AAC

- Choose Topics
- Pair up – one person uses the AAC boards
- Converse
- Pause - Switch
- Converse
- Reflect & Debrief

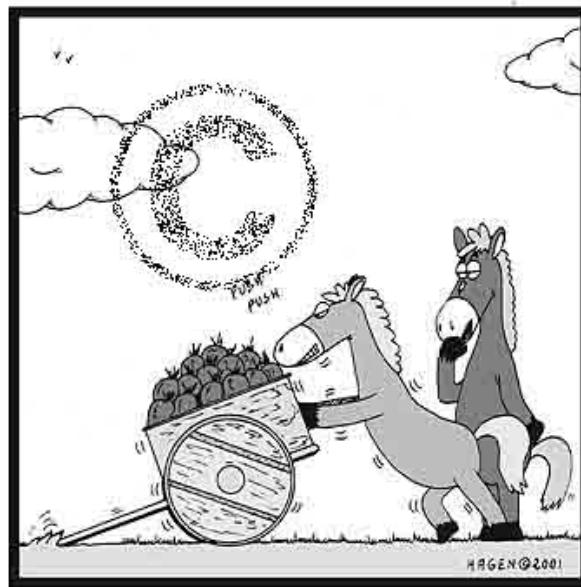# History of Augmentative Communication Informs Why This May Be…

- 40 year history (relatively new field of study)
  - Journal of AAC first published in 1985
- 10 years of not expecting communication – at all
- 20 years of not expecting academics
- 35 years with no model or publication to guide developing communication and academics together

Augmentative Communication History

1970 Exclusion of non symbol users

1980 "Needs", Compare to Disability

1990 Participation, Compare to Same Age Peers, Lower Level Academics

2000 Participation & Academics, Compare to Same Age Peers, Grade Level Academics

Myths & Misunderstandings Remain

- Let's take a quiz!

Hang on... We must be doing something wrong...
How does the saying go again?

Research shows that students with the most significant cognitive and sensory disabilities can learn to use symbolic, augmentative communication

- 1970s - In the beginning…Exclusion
  - People with severe intellectual disabilities were <u>excluded</u> from services because they were considered to be "<u>non-symbolic communicators</u>"

- 1980s - Shift away from "prerequisite skills" … Inclusion
  - Communication Needs
  - What are your <u>needs – today</u>?
  - Activities of daily living and personal assistance (EAT, DRINK, BATHROOM)
  - Are you communicating well enough <u>for a person with your disability</u>?

- 1990s – Participation in Natural Contexts
  - Participation Model to advance comprehensive decision making and planning <u>beyond the present to include planning for the future.</u>
  - National Joint Committee for the Communication Needs of Persons with Severe Disabilities is established.
  - Are you communicating the <u>same as peers without disabilities </u>of the same chronological age, for participation?

2000: Researchers Show Symbols Learned in 6 months or less by "Non Symbolic Communicators"
(Rowland & Schwiegert, 2000)

- 41 Children with varying sensory & multiple disabilities, no functional symbolic communication skills.

- Instruction provided **15 to 20 minutes per school day** for an **average of 6.5 months**.

- Only 6 failed to acquire tangible symbols during direct intervention.

- **28 of our 35 participants learned novel symbols within the first three exposures.**

- "No single handicapping condition among our participants that was exclusively associated with the outcome of intervention."

- "Progress through different levels of representation did not occur in a predetermined sequence, nor did it require experience with every level of representation."

2000s: Students with the most significant disabilities can learn to use symbols for communication AND demonstration of academic learning.

- Research demonstrates when students should use augmentative communication, but are not provided with a system or the instruction, they are perceived as less competent to learn.

- When students are provided with the assistive technology / augmentative communication they need and receive general education instruction, they show previously unexpected academic gains.
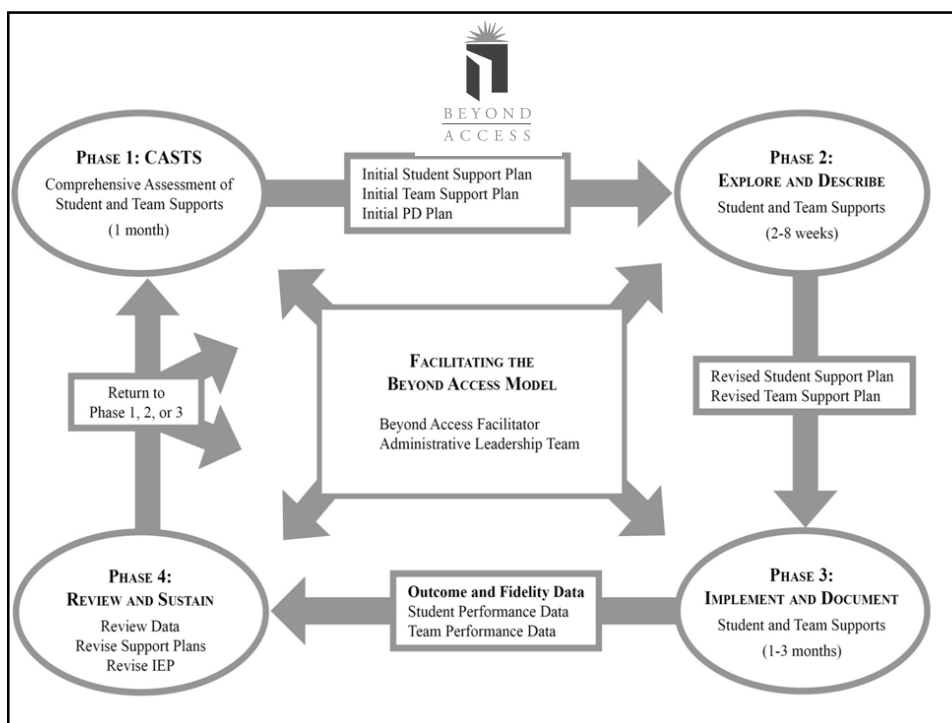
Impact Study: Membership in General Education Classroom & Participation in General Education Academics (McSheehan, et. al., 2006)					
	C	**N**	**S**	**Ty**	**Ti**
Baseline	**0-20%**	**0-20%**	**20-40%**	**40-60%**	**20-40%**
6 Months	**60-80%**	**20-40%**	**60-80%**	**60-80%**	**60-80%**
9 Months	**80%**	**80-90%**	**80-100%**	**90-100%**	**90-100%**

Impact Study: LEARNING
(McSheehan, et. al., 2006)

- 56 examples provided by educators of students' demonstration of learning academics – previously not expected

- Included reading, writing, and math

BEYOND ACCESS

Research, Practice Standards, and Intervention Models Promote
Symbolic Augmentative Communication and General Academics
for Students with the Most Significant Cognitive and Sensory Disabilities

- 2000s – Participation and Learning General Academics in Natural Contexts

  – American Speech Language Hearing Association formally adopts the "Participation Model" in professional standards for augmentative communication.

  – Comparison to same chronological age peers, in natural contexts is the standard for assessment and intervention. Are you communicating what others your age are communicating?

  – Communication as the means by which students can engage socially and academically at school, at home, and in the community.

  – **First texts and models** are published demonstrating **HOW** to develop augmentative communication for students with severe cognitive disabilities in the context of learning general academics

School improvement models and student-specific problem solving models allow educators to provide students with the communication supports they need, and improve their learning outcomes.

- School-wide Response-to-Intervention, a model gaining national appeal and research base, can be adapted and used to close the research-to-practice gap in augmentative communication while focusing on individual instructional needs.
- The Beyond Access Model, researched and demonstrated with over 50 students across 8 states, shows promising results for educators to better identify and meet students' communication and learning needs.
- When educational teams use a structured, problem solving model paired with high expectations and provision of appropriate assistive technology, some students have been moved from the alternate assessment to the general assessment with accommodations.

AAC in the Class
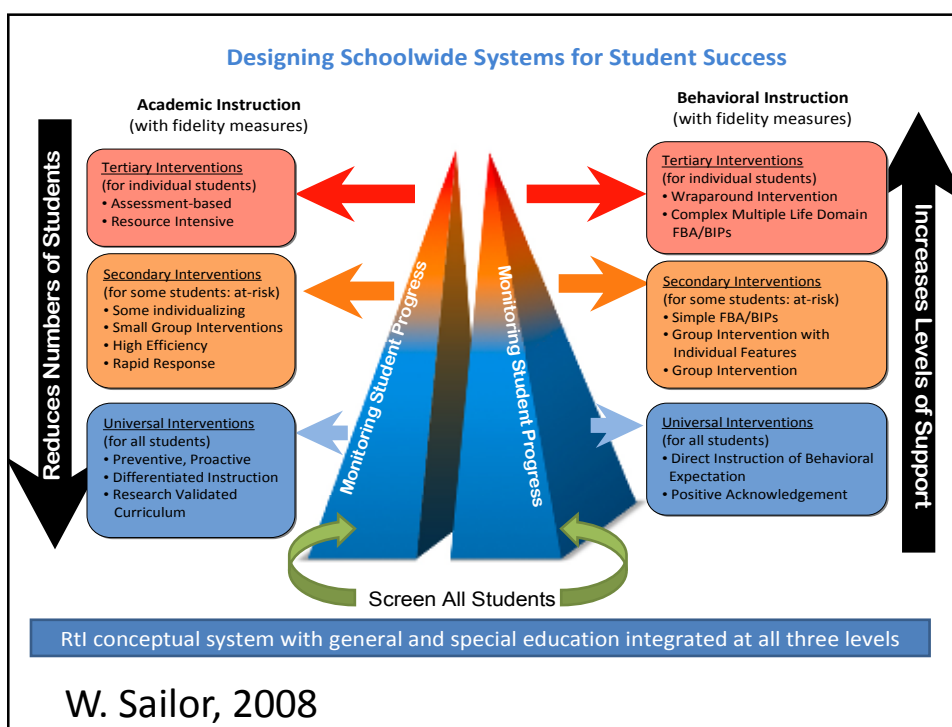
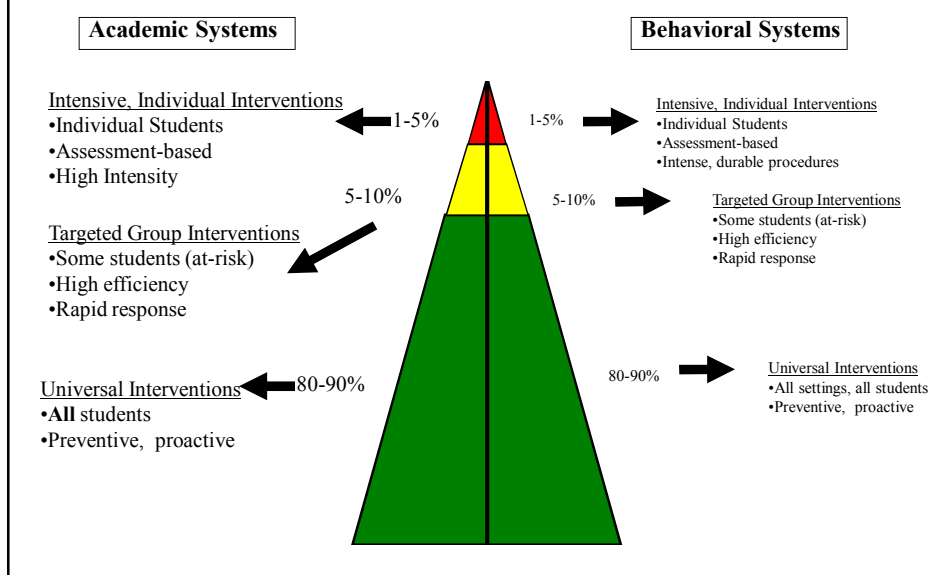Using your communication supports, please answer:
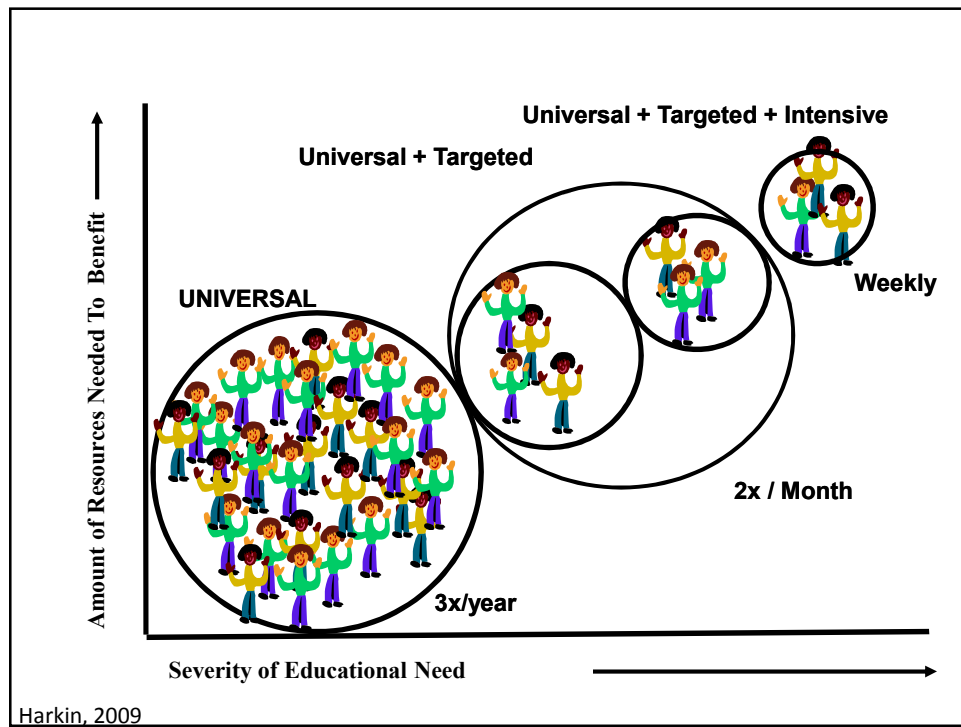
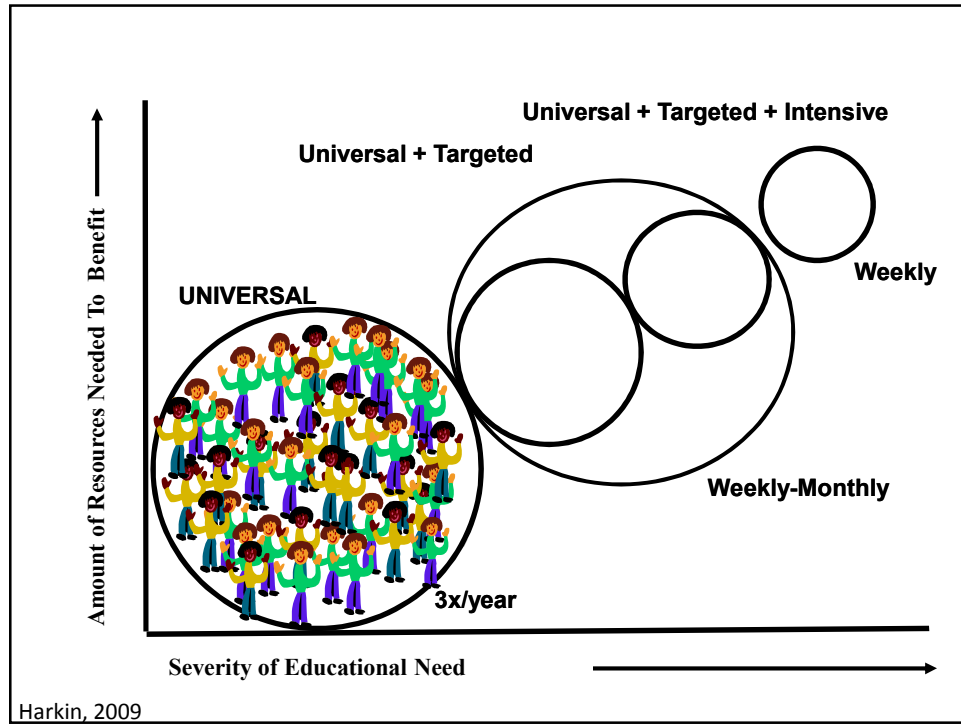Who was the first president of the U.S.?

What is 2 + 2?

What kind of dinosaur is this?

Designing School-Wide Systems for Student Success

Academic Systems

Behavioral Systems

Intensive, Individual Interventions
• Individual Students
• Assessment-based
• High Intensity

1-5%   1-5%

Intensive, Individual Interventions
• Individual Students
• Assessment-based
• Intense, durable procedures

5-10%   5-10%

Targeted Group Interventions
• Some students (at-risk)
• High efficiency
• Rapid response

Targeted Group Interventions
• Some students (at-risk)
• High efficiency
• Rapid response

Universal Interventions   80-90%   80-90%
• **All** students
• Preventive, proactive

Universal Interventions
• All settings, all students
• Preventive, proactive

Designing Schoolwide Systems for Student Success

Academic Instruction
(with fidelity measures)

Behavioral Instruction
(with fidelity measures)

Reduces Numbers of Students

Increases Levels of Support

Tertiary Interventions
(for individual students)
• Assessment-based
• Resource Intensive

Tertiary Interventions
(for individual students)
• Wraparound Intervention
• Complex Multiple Life Domain FBA/BIPs

Secondary Interventions
(for some students: at-risk)
• Some individualizing
• Small Group Interventions
• High Efficiency
• Rapid Response

Secondary Interventions
(for some students: at-risk)
• Simple FBA/BIPs
• Group Intervention with Individual Features
• Group Intervention

Monitoring Student Progress   Monitoring Student Progress

Universal Interventions
(for all students)
• Preventive, Proactive
• Differentiated Instruction
• Research Validated Curriculum

Universal Interventions
(for all students)
• Direct Instruction of Behavioral Expectation
• Positive Acknowledgement

Screen All Students

RtI conceptual system with general and special education integrated at all three levels

W. Sailor, 2008
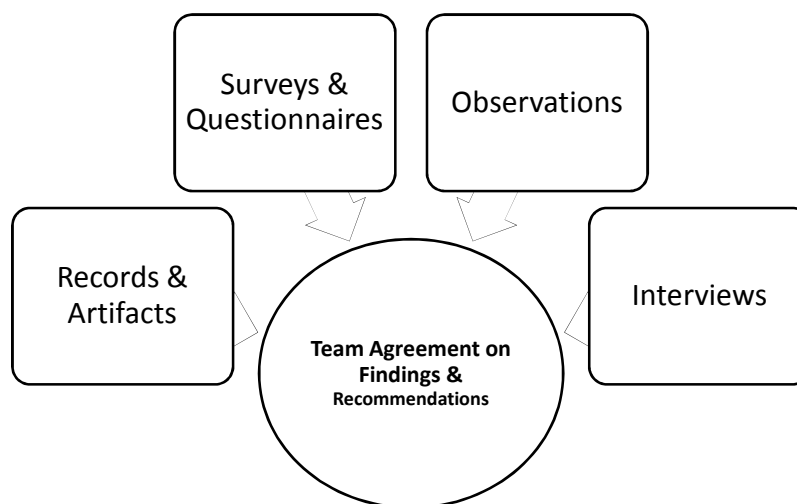
Harkin, 2009

Harkin, 2009

5 Components (or Best Practices) For Discussing Inclusive Education

- Least Dangerous Assumption: Presume Competence
- Membership (in general ed class)
- Participation (in general ed instruction)
- Learning   (of general ed curriculum)
- Team Collaboration
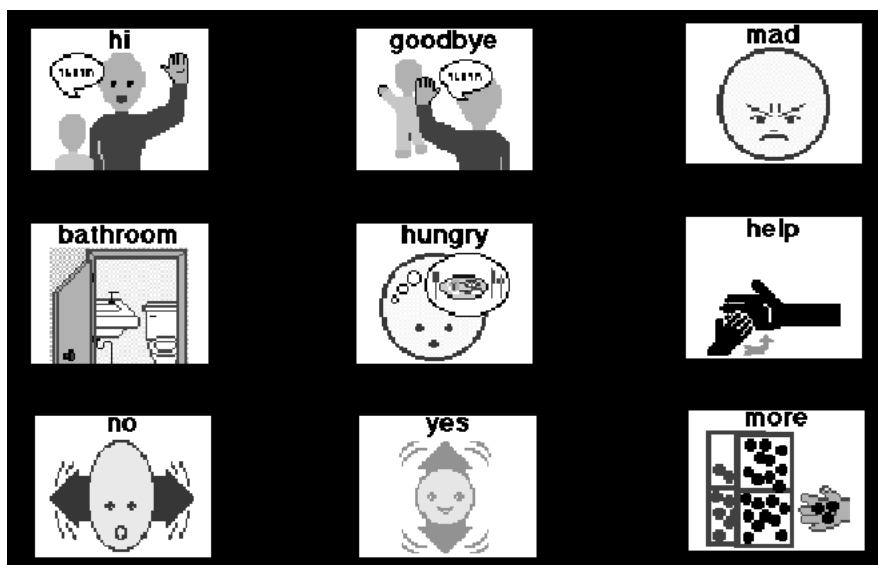
Phase 1: Assessing MPL & CT

Case Study - Jack

- "Included" in grades 1 - 3
- 4th grade at age 10
- Autism
- Initial communication system:
  - gestures (2 finger pt.)
  - some signs, vocalizations
  - Go-Talk (9 messages)
  - No reliable yes/no
- Home - 3 sibs, active, interpret needs

- **Described by team: "Jack functions at the 2 yr. level"**

Baseline - SGD 9 Items

IEP x Schedule matrix

	Academic	Communication	Social	Emotional Regulation
Morning Meeting				
Reading Group				
Recess				

Jack 4th Grade November:

Jack with Assistant

Jay: CASTS

General Education Classroom

Jack's Desk
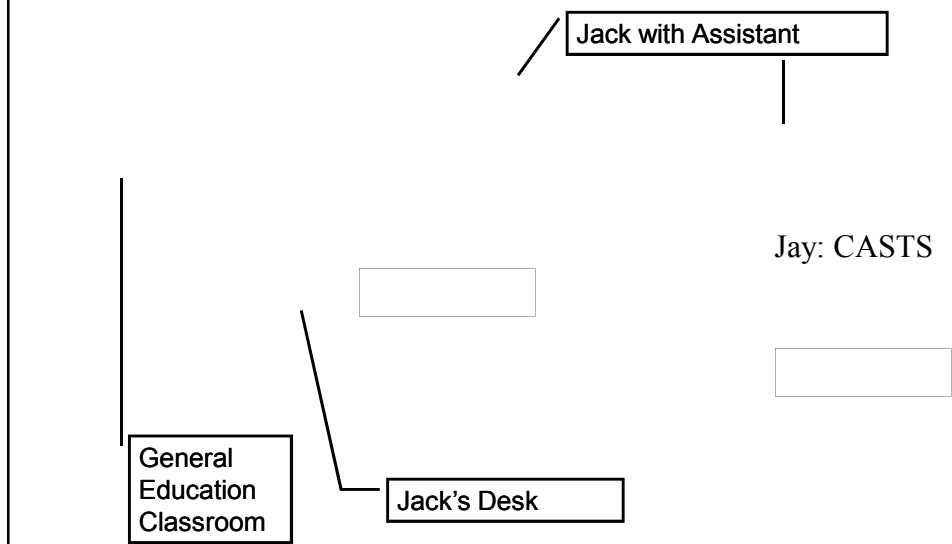
First - Then Schedule

- Between event

- 2 events listed at a time

- Laminated symbols (+word)

- Velcro on cardboard

Picture schedules

- Picture schedules are often used as a strategy for increasing predictability and as an alternative to verbal and written instruction. Transitioning from one activity to another can be problematic for some students with autism yet is a very common occurrence in general education classrooms. Picture schedules can serve as effective cues alerting students with autism to upcoming changes in activities.

Harrower and Dunlap (2001)

Jack #1 Pre-intervention

- Keep in mind
  - Assistant had only been with him a few weeks
  - General Ed Teacher hasn't had training and is openly concerned
  - It was generous for these educators to be videotaped
- What do you notice about his membership, participation, and learning in this general education classroom?
- What would you do to support Jack's membership and participation differently?

Phase 2: Explore & Describe Supports for MPL & CT
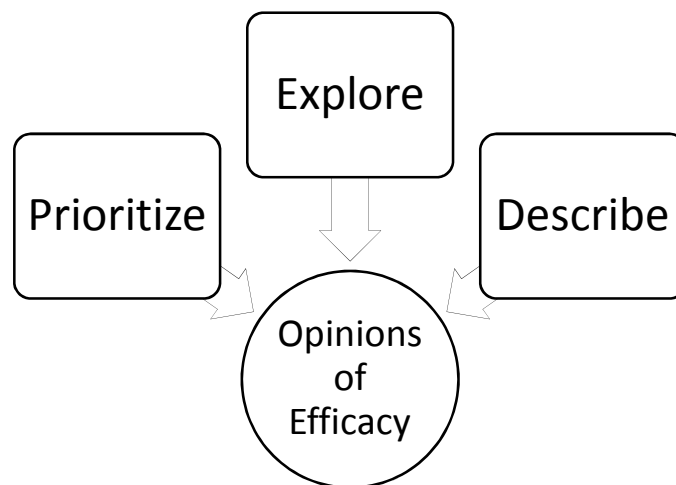
Evidence by Age and Domains — NPDC-ASD

Evidence-Based Practice	Academic	Behavior	Communi-cation	Play	Social	Transi-tion
1. Computer-aided instruction						
2. Differential reinforcement (DRA/I/O/L)						
3. Discrete trial training (DTT)						
4. Extinction						
5. Functional behavior assessment (FBA)						
6. Functional communication training (FCT)						
7. Naturalistic interventions						
8. Parent-implemented interventions						
9. Peer-mediated instruction/intervention (PMII)						
10. Picture exchange communication system (PECS)						
11. Pivotal response training (PRT)						
12. Prompting						
13. Reinforcement						
14. Response interruption/redirection						
15. Self-management						
16. Social narratives						
17. Social skills training groups						
18. Speech Generating Devices (SGD)/VOCA						
19. Stimulus control						
20. Structured work systems						
21. Task analysis						
22. Time delay						
23. Video modeling						
24. Visual supports						

Gray shading indicates that the studies making up the evidence base for that practice included dependent variables in the domain indicated by that column.

Disclaimer: The review completed by the NPDC on ASD was not exhaustive. It is possible that evidence exists for practices and ages that were not included.
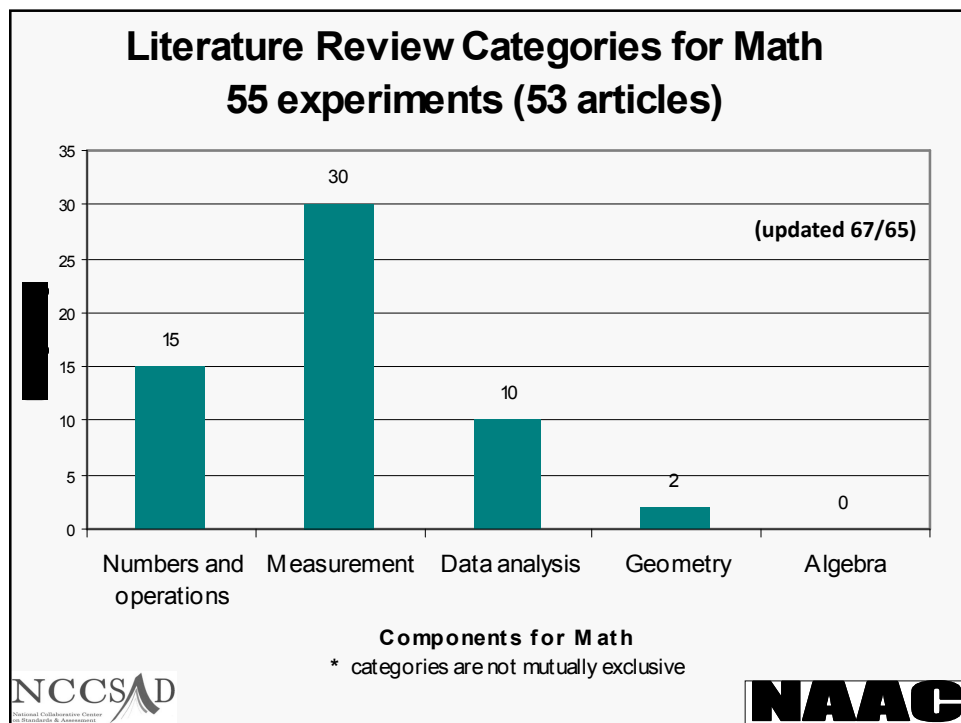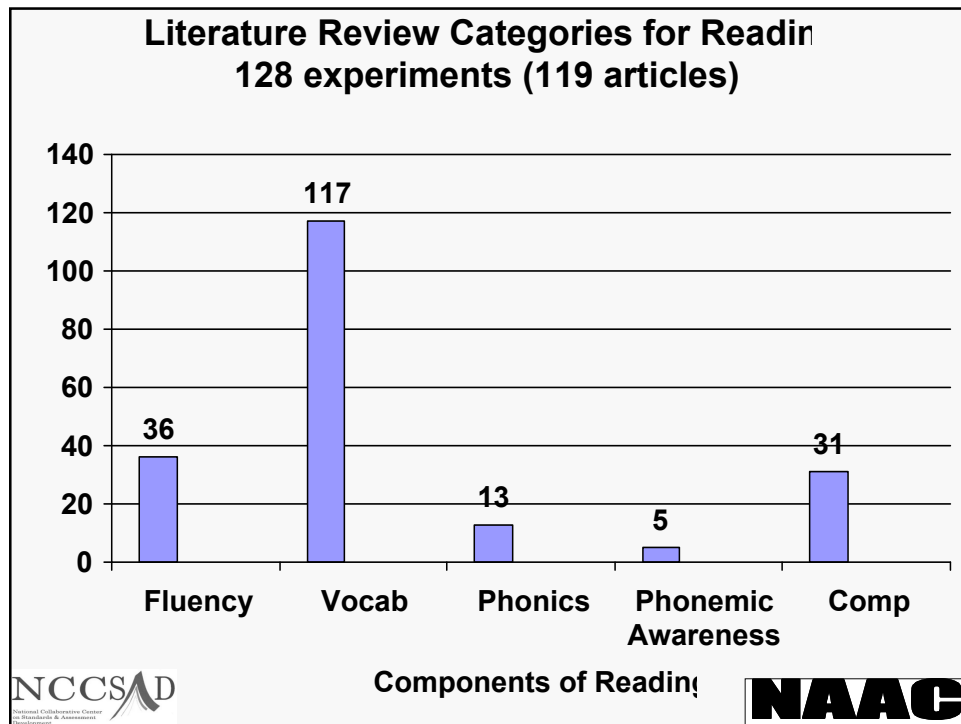
National Professional Development Center on ASD, 2009
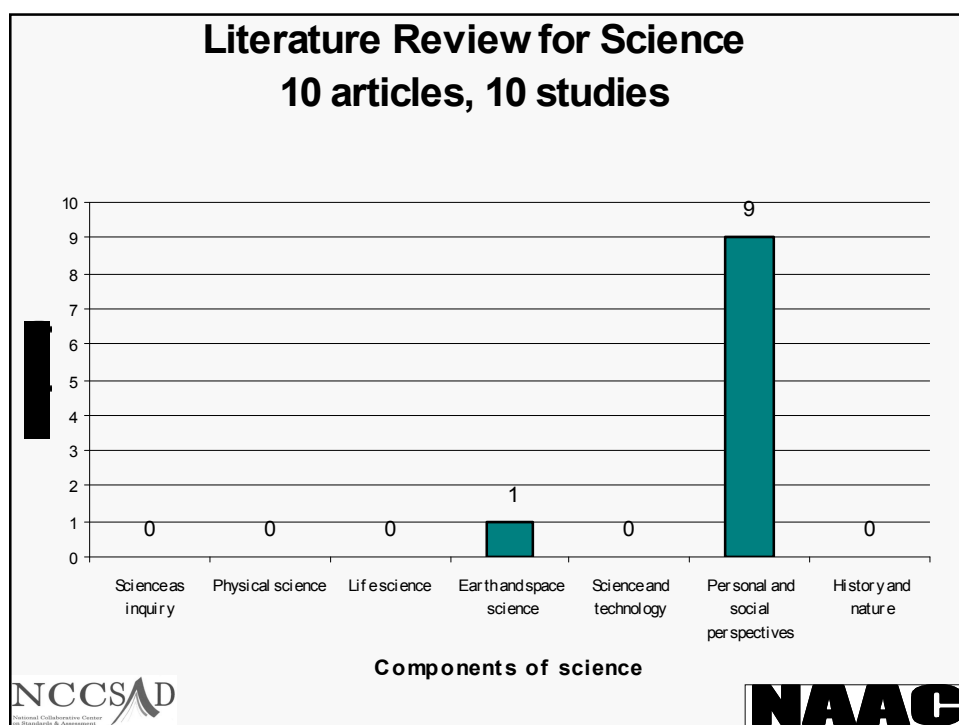

Research on Academic Interventions

Browder, D.M., Wakeman, S., Spooner, F., Ahlgrim-Delzell, L., & Algozzine, B (manuscript submitted for publication). Research on reading for students with significant cognitive disabilities. *Exceptional Children*.

- Reading

- Math

- Science

NCCSAD
National Collaborative Center on Standards & Assessment

http://naacpartners.org

NAAC

Literature Review Categories for Reading
128 experiments (119 articles)

Literature Review Categories for Math
55 experiments (53 articles)

Literature Review for Science
10 articles, 10 studies

Invented Knowledge:

when a gap exists between
"what we know"
and
"what we need to know,"

we make it up.

Rosenhan 1984

Given the absence of
conclusive data on academic
interventions, how do we teach
this population of students?

A Guiding Principle
"LEAST DANGEROUS ASSUMPTION"
(Anne Donnellan, 1984)

"…in the absence of conclusive data,
educational decisions ought to be based on
assumptions which, if incorrect,
will have the least dangerous effect
on the likelihood that students will be able
to function independently as adults."

Furthermore, "we should assume that
poor performance is due to instructional inadequacy
rather than to student deficits."

Phase 2: Explore & Describe Supports for MPL & CT
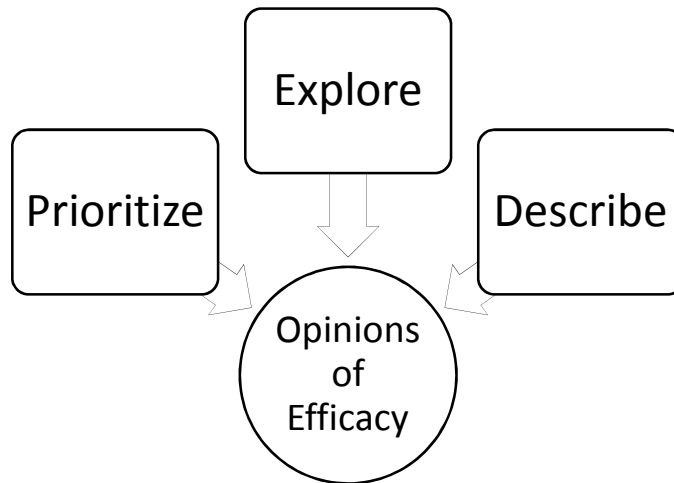
Explore

Prioritize

Describe

Opinions of Efficacy

Instructional Routines Planning

1 **All students are learning (<u>academic skill/area</u>) by participating in (<u>instructional routine</u>).**

2 **Students do _____ to participate.**
   (What observable performance shows they are participating?)

3 **Target Student will use the Same or Alternate *form* of "do _____"** **(How show #2?)**

4 **What *supports* would it take for student to do __? (What will elicit #3?)**

5 **What *planning & prep* is needed?**

Jack Spring of 4th Grade:
Enhancing Participation

Adult Aides, then fades

Go Talk with 9 messages for Social Studies

Peer-mediated Interventions

- Due to common [differences] in the social relationships of children with autism, peer-mediated interventions have been advocated as potentially useful approaches for facilitating the participation of children with autism in general education classrooms. Utilizing typical peers to support the academic functioning of students with autism has the potential to reduce the need for continuous one-on-one adult attention, thus allowing students with autism to function with increased autonomy and in a manner that more closely matches that of their typical classmates (Putnam, 1993).

Odom, et.al. (2003)   Harrower and Dunlap (2001)

A key aspect of individualization for students with ASD involves approaches for supporting high rates of engagement.

Engagement,

the amount of time that the student is attending to and actively interacting in his or her social and nonsocial environments,

has been cited as
one of the best predictors of positive student outcomes.

Iovannone, Dunlap, Huber, Kincaid (2003)

(Modified) System for Augmenting Language (SAL)

(Romski & Sevcik, 1992, 1996)

- VOCA available for use in natural environments.
- Appropriate vocabularies on the devices.
- Encourage (not require) use across the day.
- Modeling by trained partners.
- Ongoing resource and feedback (i.e., team meets regularly).

Embedding AAC into the Whole Class

- 5th grade classmates and teacher had and used his main communication board

Sample Message Text

Frequently Occurring Words

+peers modeled use
+teacher used during instruction

10 months later

Only when Helen Keller had a means to communicate did she come to escape the pronouncement of being retarded

(Blatt, 1999 as cited in Taylor & Blatt, 1999, p. 79)

Conceptual Frame of the
Instructional Routines Planning Process of the
Beyond Access Model

- Assists with access to general education instruction (Tier 1, Tier 2 of RtI model)
- Focuses on typical, frequently occurring instructional routines
- Assumes & Asks different questions than other planning models – competence, confidence in supports
- Maximizes peer models and peer interactions
- Emphasizes forms of participation (and demonstration of learning)

Instructional Routines

- Teacher Directed Large Group / Lecture
- Teacher Directed Small Group
- Partners
- Seatwork/worksheets
- Cooperative learning
- Independent Projects
  – Researching information
  – Selecting information/organizing
  – Presenting information

Instructional Routines Planning

1. **All students are learning (<u>academic skill/area</u>) by participating in (<u>instructional routine</u>).**

2. **Students do _____ to participate.**
   (What observable performance shows they are participating?)

3. **Target Student will use the Same or Alternate *form* of "do _____"** (How show #2?)

4. **What *supports* would it take for student to do __?** (What will elicit #3?)

5. **What *planning & prep* is needed?**

Jack: 5th Grade

1: Academic Instructional Routine
What are all students doing?

2 DO _____

- Look at books
- Orient book
- Track (L → R; T → B)
- Turn pages
- Comment & Question
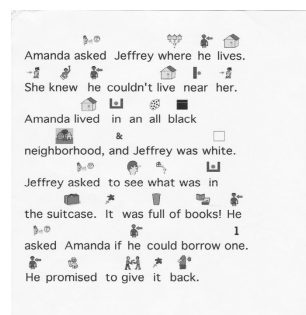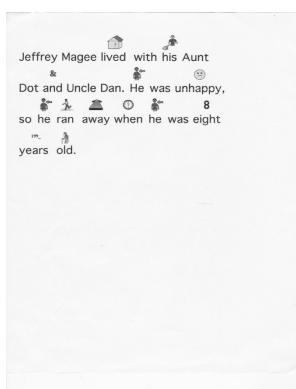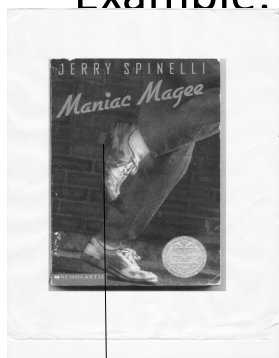 - About the book content
  - About the reading process

3 # Same / Alternate Form

- Same
- Same? Observe.
- Same? Observe.
- Same
- Alternate form – AAC
  - Displays to comment and question

4: **Supports**
Example: Adapted Grade level novel

Rewritten by team members to late 1st - early 2nd grade level, **maintaining essential content for general education quizzes/test**.

4: **Supports**
Example: Peer Tutoring — Classmate Paired Reading

During paired reading, literate peers read aloud and silently with modified text

---

4: **Supports**
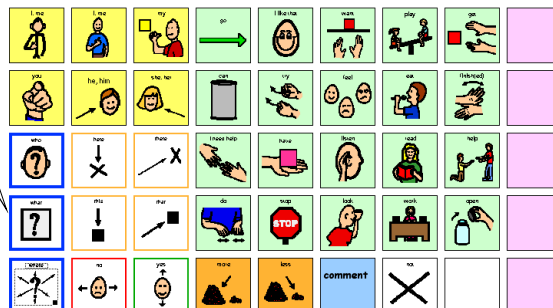
Example: Embedding AAC in the Class; modeling for target student
- classmates and teacher had and used his main (core) communication board

Sample Message Text

Frequently Occurring Words

+peers modeled use
+teacher used during instruction

Jack: 5th Grade

- VIDEO

Independent Silent Reading

Jack with modified text. Began showing more emergent reading skills, including vocalizing while touching individual words.

JR Comments

Phase 3: Implement & Document

Improve fidelity through PD

Specify Supports

Documentation

Fidelity & Data for Decisions

FIDELITY

- Monitor provision of supports/interventions
  - Present Absent; Fidelity measures
  - Who / Target (e.g. general ed teacher / proficient)
  - Timeline

- Ongoing, job embedded professional development
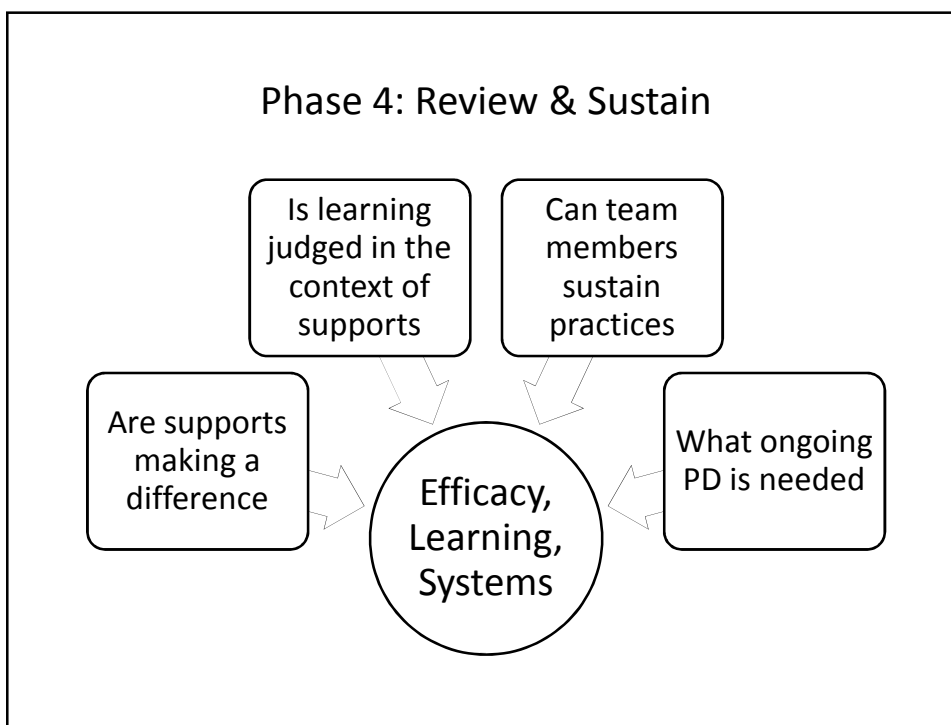 - e.g., monthly workshop + in class coaching every other week
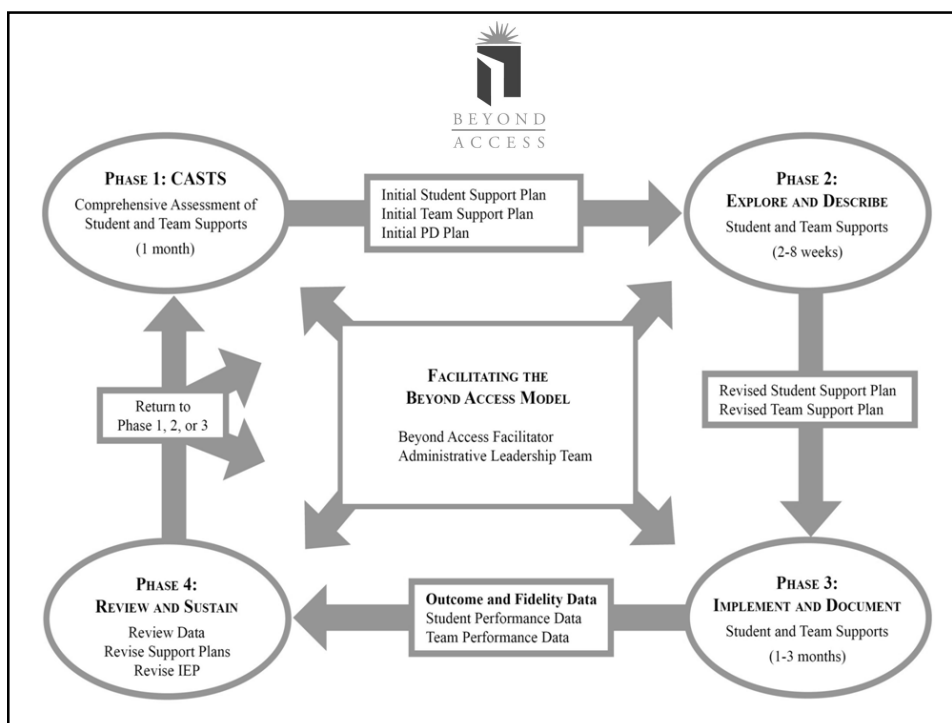
Fidelity of Implementation

"Without knowing whether an intervention was delivered in the way that research has shown it to be most effective, it is impossible to know the reason for the child's lack of progress."

Recognition & Response Implementation Guid

NH RESPONDS

Student and Team Outcomes Survey

BEYOND
ACCESS

Student's name: _____   Grade: _____

Quarter: ☐ CASTS ☐ 1 ☐ 2 ☐ 3 ☐ 4   Date: _____

Rater's name: _____   Rater's role: _____

Overview

The Student and Team Outcomes Survey focuses on indicators related to the following:

1. Student's membership, participation, and learning of the general education curriculum in the general education classroom

2. Collaborative teaming practice

3. Other indicators identified by the team during the Comprehensive Assessment of Student and Team Supports (CASTS) process

All team members complete a rating of these indicators at baseline (CASTS) and on a quarterly basis. The ratings on these indicators are summarized and reviewed during a team meeting to monitor and to evaluate the overall efficacy of the Beyond Access (BA) Model.

Indicators of the student's membership in the general education curriculum

1. Check the box that represents the approximate percentage of the school day that the student *currently spends in the general education classroom*:

☐ 0%–10%   ☐ 10%–20%   ☐ 20%–30%   ☐ 30%–40%   ☐ 40%–50%

☐ 50%–60%   ☐ 60%–70%   ☐ 70%–80%   ☐ 80%–90%   ☐ 90%–100%

Phase 4: Review & Sustain

Is learning judged in the context of supports

Can team members sustain practices

Are supports making a difference

What ongoing PD is needed

Efficacy, Learning, Systems

BEYOND ACCESS

PHASE 1: CASTS
Comprehensive Assessment of
Student and Team Supports
(1 month)

Initial Student Support Plan
Initial Team Support Plan
Initial PD Plan

PHASE 2:
EXPLORE AND DESCRIBE
Student and Team Supports
(2-8 weeks)

Return to
Phase 1, 2, or 3

FACILITATING THE
BEYOND ACCESS MODEL

Beyond Access Facilitator
Administrative Leadership Team

Revised Student Support Plan
Revised Team Support Plan

PHASE 4:
REVIEW AND SUSTAIN
Review Data
Revise Support Plans
Revise IEP

Outcome and Fidelity Data
Student Performance Data
Team Performance Data

PHASE 3:
IMPLEMENT AND DOCUMENT
Student and Team Supports
(1-3 months)

Cheyenne

BEYOND ACCESS

- 8 yrs, Grandparents
- Rural town

- Included since pre-K, but only in school about 20% of the time - video conferencing from home

- Loves people, cartoons, books on tape, music

- Mitochondrial Disorder, Seizures, CVI, G-tube

Cheyenne
Instructional Routines

- During teacher lecture and large group discussion, use a fidget tool to assist her participation in "listening and attending."
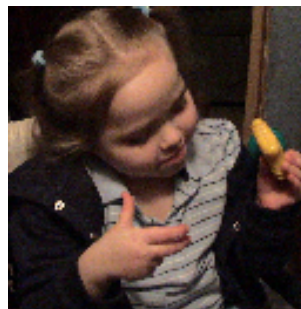
Example: Cheyenne

- During group and independent reading activities, Cheyenne uses switches to flip pages in individualized books. She comments on books with a second switch with preprogrammed messages.

Cheyenne Lessons & Update (5 yrs later)

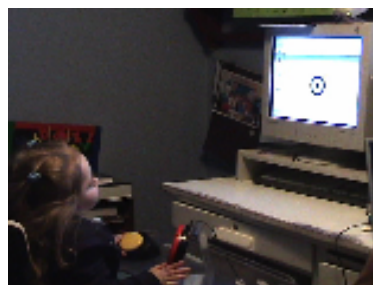- Communication (AAC) impacts perceptions of student competence. (symbolic levels CHANGE when we teach!)
- Creative thinking
- Consensus and Conflict – Build it; Manage it
- Maintain the same vision for ALL

A Guiding Principle
"LEAST DANGEROUS ASSUMPTION"
(Anne Donnellan, 1984)

"…in the absence of conclusive data,
educational decisions ought to be based on
assumptions which, if incorrect,
will have the least dangerous effect
on the likelihood that students will be able
to functional independently as adults."

Furthermore, "we should assume that
poor performance is due to instructional inadequacy
rather than to student deficits."

Exploring LDA of Presumed Competence

- 3 Scenarios

- Audience reflection

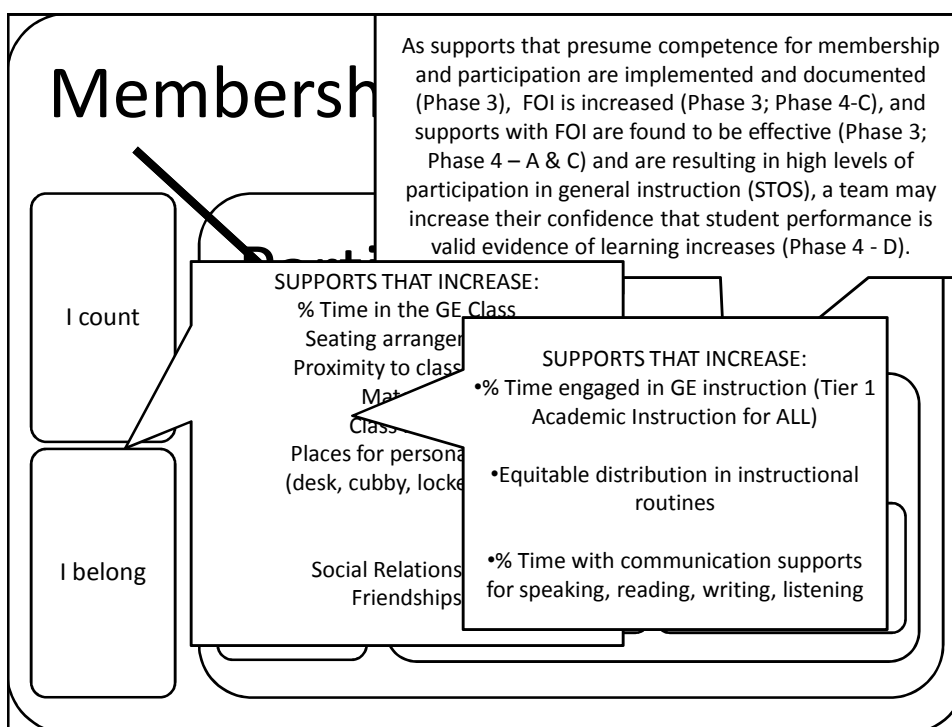- Cheryl Jorgensen – Least Dangerous Assumption; Disability is natural – Kathie Snow

The most important "intervention" may be…

Presuming that the student is competent to learn age-appropriate general education curriculum content in the general education classroom.

When a team presumes a student is competent, they are more likely…

(Jorgensen, McSheehan, Sonnenmeier, 2009;
McSheehan, Sonnenmeier, Jorgensen, & Turner, 2008)

- To promote membership in the general education classroom
- To foster participation in general education instruction
  - E.g., Using accommodations before modifications
- To prioritize learning of the general education curriculum
- To organize educational program supports (e.g., planning time, collaboration) to achieve these outcomes

Membersh

As supports that presume competence for membership and participation are implemented and documented (Phase 3), FOI is increased (Phase 3; Phase 4-C), and supports with FOI are found to be effective (Phase 3; Phase 4 – A & C) and are resulting in high levels of participation in general instruction (STOS), a team may increase their confidence that student performance is valid evidence of learning increases (Phase 4 - D).

I count

SUPPORTS THAT INCREASE:
% Time in the GE Class
Seating arrange
Proximity to class
Mat
Class
Places for persona
(desk, cubby, locke

SUPPORTS THAT INCREASE:
•% Time engaged in GE instruction (Tier 1 Academic Instruction for ALL)

•Equitable distribution in instructional routines

•% Time with communication supports for speaking, reading, writing, listening

I belong

Social Relations
Friendships

Student Outcome Indicators

- **Membership:**

  Percentage of the day the student is:
  - in general education classroom
  - Indicators of "counting" (e.g., desk, lunch count)
  - Indicators of "belonging" (e.g., friends, social communication)

Student Outcome Indicators

- **Participation:**

  Percentage of time student is:
  - present & an active participant in content areas (reading, writing, math, science, social studies)
  - in the same instructional routines as classmates
  - has the means to meet communication needs for speaking, writing, reading, and listening
  - has the means and supports to communicate about the same topics commensurate with classmates

Student Outcome Indicators

- **Learning:**

  In general education academic content areas (reading, writing, math, science, social studies):
  - Opportunities student has to hand-in learning products in comparison to classmates
    - Number of assignments given to class
    - Number of assignments given to student
    - Number of assignments student handed-in
  - Student proficiency relative to grade-level expectations / general education achievement standards

  - Depth of Knowledge (Webb) and Blooms Taxonomy could be a helpful guide for both evaluating your expectations and programming AAC vocabulary

Team Outcome Indicators

- **Collaborative Teaming**

To plan for the student's membership and participation within lessons to learn the general education curriculum:
  - How often does the team meet for purposes of instructional planning?
  - How effective are the meetings?
  - How efficient are the meetings?
  - How well does the team collaborate?

Check learning objectives

Is Special Education (and education, generally) Achieving the Desired Outcomes?

- 66% and 68% of 8th graders with disabilities below the basic level on the 2005 National Assessment of Educational Progress (NAEP) reading and mathematics measures, respectively
- 72%and 83% of twelfth-graders with disabilities scored below the basic level on the NAEP's reading and mathematics measures. (U.S. Department of Education, National Center for Education Statistics [hereafter, NCES], 2007b).
- Children and youth with disabilities also continue to lag far behind their peers without disabilities on varying measures of societal attainment (Phelps & Hanley-Maxwell, 1997).
  - more likely to drop out of school, be delinquent, be unemployed, earn less, and be unsatisfied with their adult lives than peers without disabilities (Blackorby & Wagner, 1996).
  - children placed in special education classrooms sometimes score lower on measures of reading, writing, and mathematics skills at the end than at the beginning of the school year (Lane, Wehby, Little, & Cooley, 2005).

Is Special Education
Achieving the Desired Outcomes?

- Receipt of special education services has either a negative or a statistically nonsignificant impact on children's learning (reading and mathematics) and behavior (internalizing and externalizing). However, special education services do yield a small, positive effect on children's learning-related behaviors. (Effects of Special Education Services (Feb, 2010)

What does the research say about placement and outcomes?

Data from two longitudinal studies of students with disabilities (SEELS and NLTS-2) when controlling for SES, age, gender, disability type, and severity of disability found

spending more time in general education classrooms related independently to

- greater engagement,
- achievement, and
- social adjustment of students with disabilities at school

(Blackorby, Knokey, Wagner, Levine, Schiller, & Sumi, 2007; Wagner, Newman, Cameto, & Levine, 2006).

Students with disabilities placed in general education classes score higher on standardized assessments of reading and math.

- Blackorby, J., Chorost, M., Garza, N., & Guzman, A. (2003). The academic performance of secondary students with disabilities. In M. Wagner, C. Marder, J. Blackorby, R. Cameto, L. Newman, P. Levine, et al. (Eds.), *The achievements of youth with disabilities during secondary school. A report from the National Longitudinal Transition Study–2 (NLTS2; pp. 4–14).* Menlo Park, CA: SRI International.
- Wagner, M., & Blackorby, J. (2004). *Overview of findings from wave 1 of the special education elementary longitudinal study (SEELS). Menlo Park, CA: SRI International.*

30 years of Support for Inclusive Ed

- No studies conducted since the late 1970s have shown an academic advantage for students with IDD educated in separate settings.

- Falvey, M. (2004). Toward realizing the influence of "Toward realization of the least restrictive educational environments for severely handicapped students." *Research and Practice for Persons with Severe Disabilities, 29(1), 9–10.*

For the Beyond Access Project

- Presume competence to learn the general education curriculum (for one - two periods a day).

- Use 5-Step Instructional Planning

- Suspend judgment about student capabilities until supports for membership & participation are provided, accurately and consistently, and best practices are in place.

BEYOND
ACCESS

Impact Study

McSheehan, Jorgensen, Sonnenmeier, & Turner (2006) Beyond Communication Access: Promoting learning of the general education curriculum by students with significant disabilities. *Topics in Language Disorders*, *26(3),* p. 266-290.

- 38 participants completed BA Impact Survey 6 months following the initiation of the BA model
  - Likert scale ratings
  - Closed- and open-ended survey questions
- Content analysis

BEYOND
ACCESS

Impact Study

(McSheehan, et. al., 2006)

- Replication site participants reported that Beyond Access increased their expectations resulting in:

  (1) Membership in the classroom,

  (2) Higher quality supports,

  (3) Collaborative lesson planning, and

  (4) Student participation in, instruction in, and/or learning of the GE curriculum.

BEYOND
ACCESS

Impact Study: Membership & Participation

(McSheehan, et. al., 2006)

	C	N	S	Ty	Ti
Baseline	0-20%	0-20%	20-40%	40-60%	20-40%
6 Months	60-80%	20-40%	60-80%	60-80%	60-80%
9 Months	80%	80-90%	80-100%	90-100%	90-100%

BEYOND
ACCESS

Impact Study: LEARNING
(McSheehan, et. al., 2006)

- 56 examples cited of students' demonstration of learning

- Included examples for reading, writing, and math

BEYOND
ACCESS

Learning Objective

- Develop an efficient, student-specific supports planning process based on instructional routines

Levels of Confidence & Focus of Instructional Planning

High (Learning)	• Data demonstrate efficacy of supports (increase MPL) • Most supports are delivered with fidelity
Medium (Partic/Learn)	• Some data demonstrate efficacy of supports • Some supports are delivered with fidelity
Low (Membership & Participation)	• Team has not systematically evaluated efficacy and fidelity • Data is not used to guide such decisions

Instructional Routines

- Teacher Directed Large Group / Lecture
- Teacher Directed Small Group
- Partners
- Seatwork/worksheets
- Cooperative learning
- Independent Projects
  – Researching information
  – Selecting information/organizing
  – Presenting information

Phase 2: LOW = Focus on Membership and Participation (not "learning" yet)

- Use data from CASTS to generate POSSIBLE supports for instruction in the content areas
- Explore use of these supports within general academic instruction (instructional routines across content areas)
- **GUIDE:**
  - Accommodations before Modifications;
  - Least to most prompting
- For those supports showing promise, fully describe what/how

---

Instructional Routines X
Demonstration of Participation & Learning
(Communication Mode)

	Large Group - TD	Small Group - TD	Seat Work	Partner
Same				
Alternate				

Use instructional routines planning process to fill in

Instructional Routines Planning

1. **All students are learning (<u>academic skill/area</u>) by participating in (<u>instructional routine</u>).**

2. **Students do _____ to participate.**
   (What observable performance shows they are participating?)

3. **Target Student will use the Same or Alternate *form* of "do _____"** **(How show #2?)**

4. **What *supports* would it take for student to do __?** **(What will elicit #3?)**

5. **What *planning & prep* is needed?**

AAC Decisions: How will Language be Represented?

- What is the method or methods that will be used to represent language in the AAC system.
- There are three basic methods:
  - *single meaning pictures,*
  - *alphabet-based systems, and*
  - *semantic compaction.*

3 Select AAC Considerations

- Features matched to environment, student and communication need
  - Access method
  - Symbol set
- Content – vocabulary
  - Core / Closed or Fringe / Generative
  - Academic / Social / Personal
- Instruction for device use
  - Direct instruction – e.g. PECS
  - MODELLING – by adults and peers

AAC Vocabulary
(Musselwhite & Hanser, 2003)

Vocabulary available to AAC users can have a huge impact – positive or negative – on their communication.

Closed Sets:
- Small # of pre-programmed words and phrases
- Chosen by another person and arranged for the AAC user
- Temporary, set up for a single activity

Core Vocabulary Sets:
- Pre-programmed words and phrases
- Same set of vocabulary always available to the AAC user
- Semi-generative depending on creativity of user
- Continuum from a small # of words (less than 100) to large # of words (thousands)
- Alphabet may be available but not used

Generative Sets:
- Core vocabulary set still available, to support quick writing
- Alphabet used to generate novel vocabulary not in core

VOCA Success

Table 6. Success scores of 58 students with ASD using VOCAs. (Mirenda, 2000)

limited success

(very) successful

little or no success
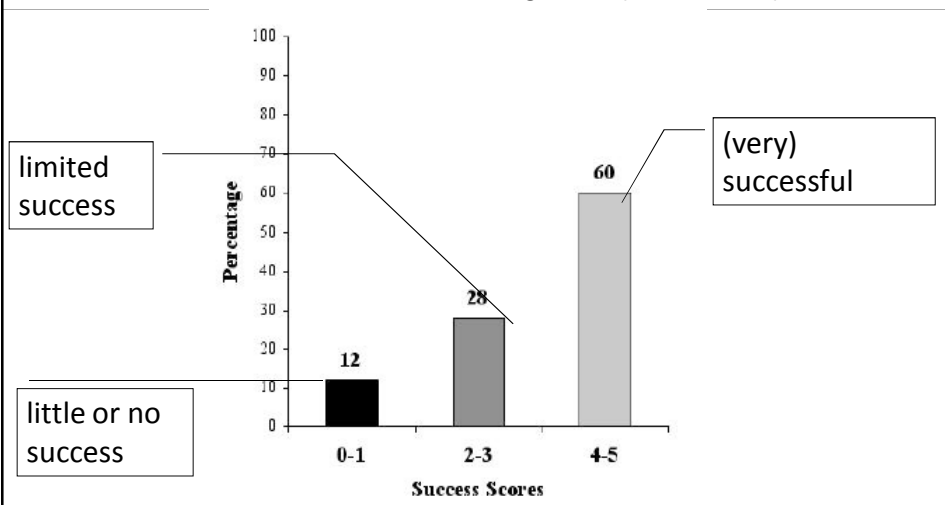
But what about student characteristics?

Student characteristics and success scores of 58 students with ASD using VOCAs. (Mirenda, 2000)

Descriptors	Final Success Scores		
	0-1	2-3	4-5
Age when service first provided			
5-8 (n=32)	3 (10.4%)	11 (34.4%)	18[7] (56.3%)
9-11 (n=13)	1 (7.7%)	4[a] (30.8%)	8[b] (61.5%)
12-14 (n=5)	1 (20.0%)	2[b] (40.0%)	2 (40.0%)
15-17 (n=8)	3 (37.5%)	2[b] (25.0%)	3 (37.5%)
Communication abilities			
No functional speech (n=24)	4 (16.7%)	8[9] (33.3%)	12[12] (50.0%)
Limited functional speech (n=29)	4 (13.8%)	9[b] (31.0%)	16[b] (55.2%)
Functional speech (n=5)	0 (0%)	2 (40.0%)	3 (60.0%)
Estimated cognitive abilities			
Low average/average/above average (n=15)	1 (6.7%)	6[b] (40.0%)	8 (53.3%)
Mild mental handicap (n=11)	3 (27.3%)	3 (27.3%)	5 (45.5%)
Moderate mental handicap (n=21)	4 (19.0%)	6[a] (28.6%)	11[11] (52.4%)
Severe mental handicap (n=11)	0 (0%)	4 (36.4%)	7 (63.6%)

Cognitive Label & VOCA success

Students rated (very) successful
Average ability = 26%

Mild delay = 16%

Moderate delay = 35%

Severe delay = 23%

Variety of VOCAs

none more successful than others

(Mirenda, 2003, p.212)

"…No empirically validated method for making [candidacy] decision [based on cognitive ability] at this point in time."

AAC in the Classroom:
Some Research Findings

- Five Professional Skills (Soto et al, 2001, LSHSS)
  - Collaborative Teaming
  - Providing Access to the Curriculum
  - AAC System Maintenance & Operation
  - Cultivating Social Supports
  - Building a Supportive Classroom Community

AAC in the Classroom:
Some Research Findings

- Some Indicators for Success (Soto et al, 2001, AAC)
  – Ownership by GE Teacher
  – Academic Participation
  – Collaborative Teaming
  – Successful Use of AAC Device
  – Appropriate Training
  – Services and Supports in Place
  – Student Membership & Belonging

AAC in the Classroom:
Some Research Findings

- General Education Teacher Experiences (Kent-Walsh & Light, 2003, AAC)
  – Benefits for Students, Classmates, Teachers
  – Negative Impact for Students, Classmates, Teachers
  – Barriers – school, team, teacher, assistant, classmate, student, curriculum, AAC
  – Supports – school, team, teacher, classmate, curriculum, AAC

AAC in the Classroom:
Some Research Findings

- Collaborative Teaming (Hunt et al, 2002, AAC)
  - Is necessary for student and team success
  - Shared responsibility
  - Classroom structures and strategies impact student performance
  - Is complex and requires support
    - Competencies, Planning time, Financial resources

Presume Competence for Communication

1. If a student with a disability cannot communicate what his/her chronological age-matched peers are communicating, the student qualifies for (augmentative and alternative) communication support.

   - Mental age, level of functioning, IQ, etc. are NOT used as determinants of an individual's communicative potential.

2. Students are supported to use multiple means of communication inputs/outputs with age-appropriate social and academic vocabulary without first having to demonstrate mastery of that vocabulary.

3. IEP teams continue to explore, expand, and enhance communication supports for a child until that child can communicate what his/her chronological age-matched peers are communicating.

## Do our communication supports presume competence?

- Is this Chronologically Age-appropriate?
- Are both academic and social vocabulary available, without prerequisites?
- Is there sufficient vocabulary to communicate what other classmates are communicating?
- Are modeling and other instructional approaches to encourage use of vocabulary used?
- Is the IEP team exploring and evaluating effectiveness of supports?

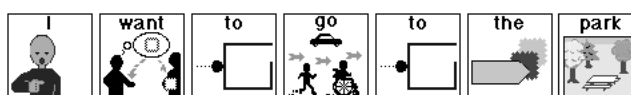## Does method of message retrieval affect syntactical development?

Sentence based

Phrase based
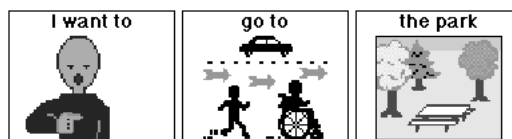
Word based

Williams, S. DynaVox Systems LLC

The best AAC systems use a combination of single words, phrases, sentences, expanded messages, and spelling.

Williams, S. DynaVox Systems LLC

Keys to teaching

- Use everyday items to encourage use of the AAC system.
- Use consistent color-coding and symbol placement as a teaching strategy.
- You MUST know the organization of the communication system.
- Encourage exploration of the system.
- Make a plan. Know when, where, why, how.
- Provide guided practice using the "least to most" prompting hierarchy.

Use Appropriate Prompting

- Step 1: Natural Cue

- Step 2: Expectant Delay

- Step 3: Point

- Step 4: Model

Why Inclusive Education?

- Sp. Ed teachers report *context for skill development*, especially in relation to AAC use
- Increased *interaction* with peers; increased *social participation*
  - More social interactions and communication opportunities
- *Access* to general curriculum
- Improved *quality* of instructional objectives
- *Perceived* as more capable and "normal"
- Solicit higher academic *expectations*

(Kent-Walsh & Light, 2003; Soto et al. 2001)

Types of barriers to effective
AAC programs and inclusive education
Beukelman and Mirenda's Participation Model

- **Policies**
- **Practices**
- **Attitudes**
- **Knowledge**
- **Skills**

We do not predict vocab well…

- In an Australian research project, Sue Balandin and Teresa Iacono <u>asked speech-language pathologists to *predict the topics that would be useful to employees in a sheltered workshop during* breaks. The success rate was dismal, less than 10%.</u>
  - If sentences were pre-stored based on these predicted topics, the sentences would have little relevance to the actual conversations occurring.

Utilize Different Roles in One Activity

- Teach AAC skills in conjunction with *skill clusters* (Guess & Helmstetter, 1986)
  - Lunch as a skill cluster
  - Multiple related service providers may view video and identify integrated objectives

- Circle time in pre-school
  - Transfer from standing to sitting on floor **(PT)**
  - Maintain good, independent sitting posture on floor **(PT)**
  - Visually orient to and track stimuli **(OT)**
  - Decrease tactile defensiveness during show and tell **(OT)**
  - Request objects and share novel information **(SLP)**
  - Transfer from sitting to standing **(PT)**

  - Can have different related service providers rotate to circle time and teach/reinforce all skills. *Role Release*

Matrix including IEP goals, classroom schedule, and levels of support (F-Full, P-Partial, S-Spontaneous) needed to foster student success over multiple trials.

Student: _____   Date: _____

CODE
F= Full Assistance
P= Partial
S=Spontaneous

IEP GOALS	Morning Meeting	Art (1)	Math	Music	Lunch	Recess	Art (2)	Health	Science
Making Choices				X PSP		X PPS			
Initiate interaction w/peers & adults	X FPF				X PPS				
Stay seated w/out rocking motion					X SPS				X PSS
Request continuation of a pleasurable activity					X PFP				
Decrease hand to mouth behavior	X FFP						X PPP		
Maintain eye contact	X SSS							X PPS	
Demonstrate joint attention to communicate wants and needs			X PPS				X SPS		
Use AAC device to complement or comment on a peer's work or actions		X PPF							X PPP
Enhance independent mobility					X SSP				

SLP collaborates with teacher to identify *reasons and opportunities for communication*

Use of **discrepancy analyses** (Brown et al. 1984; Calculator, 1994)

- ID setting or activity in which communication challenges limit or preclude participation

- Inventory communication opportunities & skills of typical peers

- ID opportunities & skills our student is not demonstrating

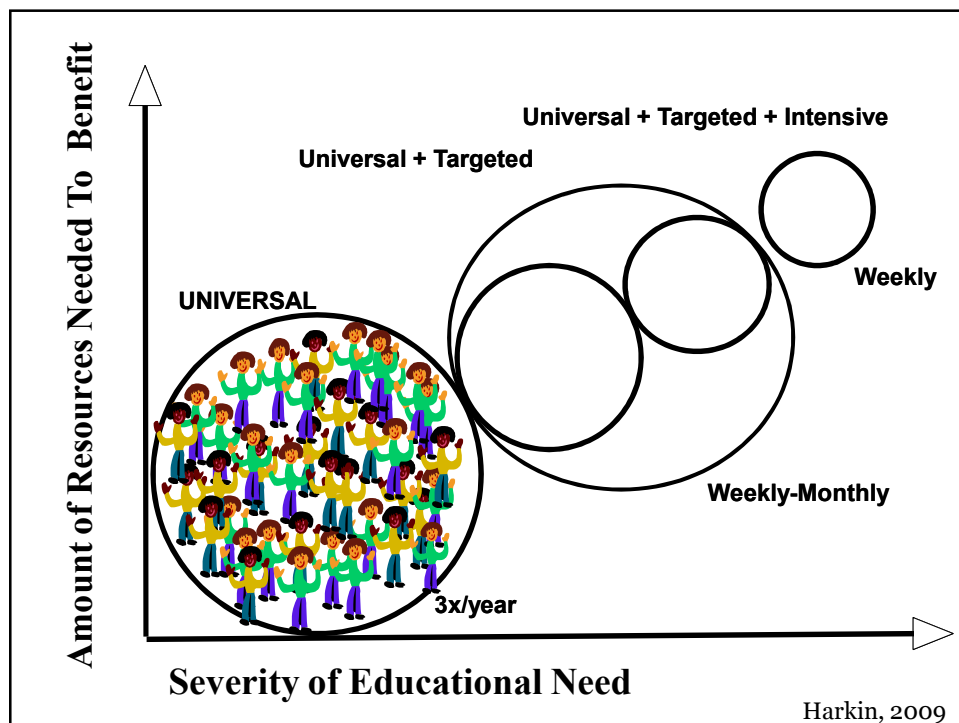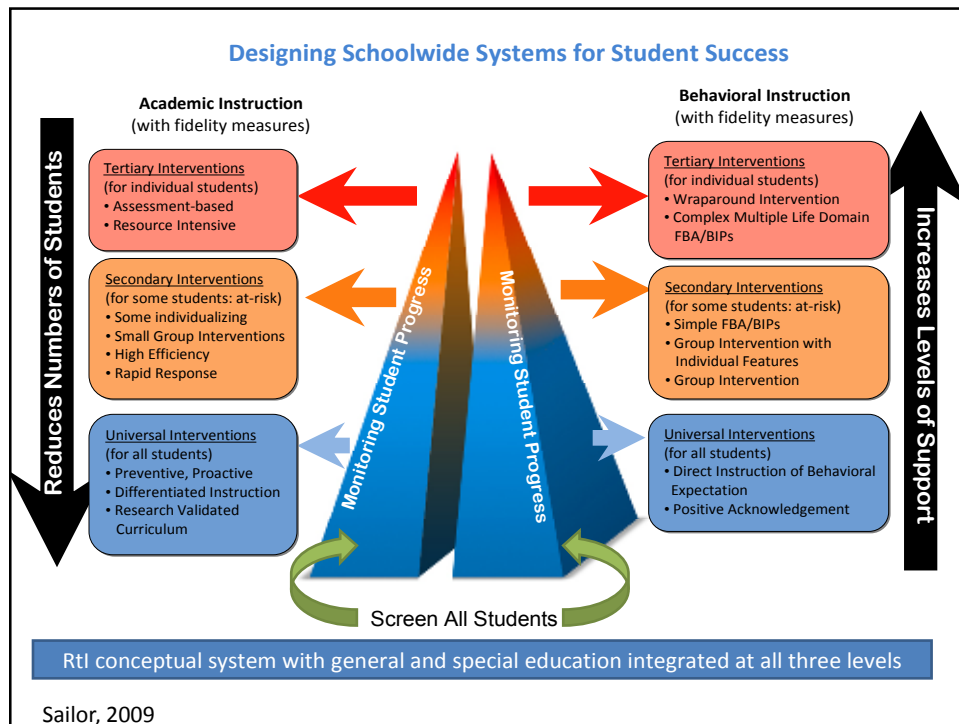# CASTS: Findings & Recs

- Uses **natural supports** (Jorgensen, 1992) whenever possible
  - Who would a typical individual turn to in a similar situation?
  - *Least to most intrusive*
    - Aide assists in removing coat, classmate escorts student to desk, classmate sets up the AAC device

- Some factors that contribute to students' using AAC systems when they have access to them (Johnston et al. 2004)
  - **Response effort** (Physical and cognitive)
  - **Rate of reinforcement** (frequency; valued and ecologically valid)
  - **Immediacy of reinforcement** (relates to responsiveness of partners)
  - **Quality of reinforcement** (better outcomes when you use your AAC system)
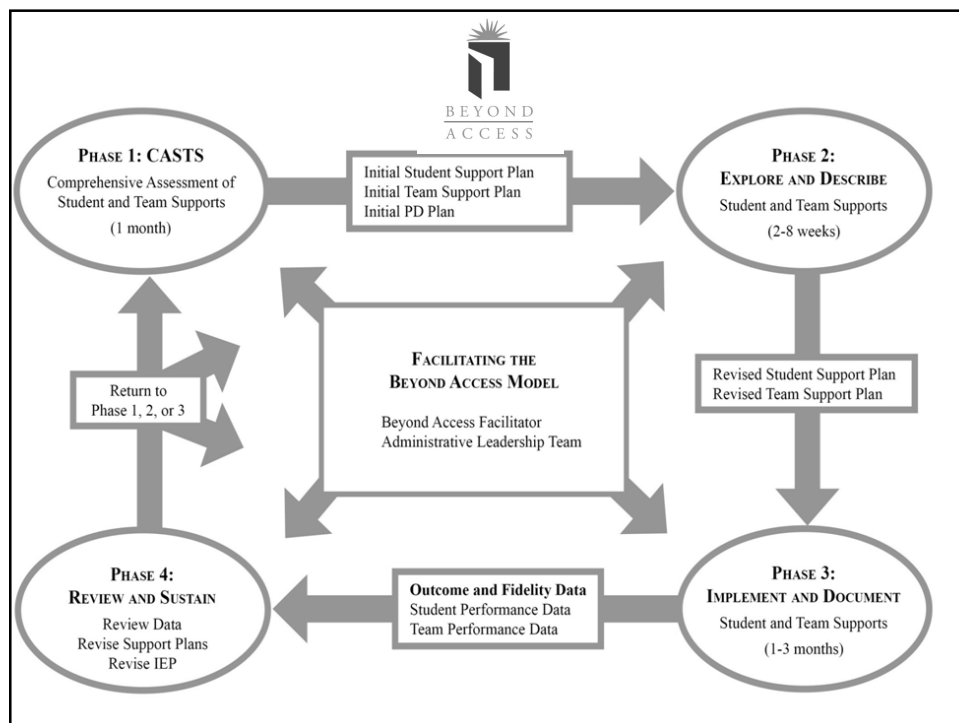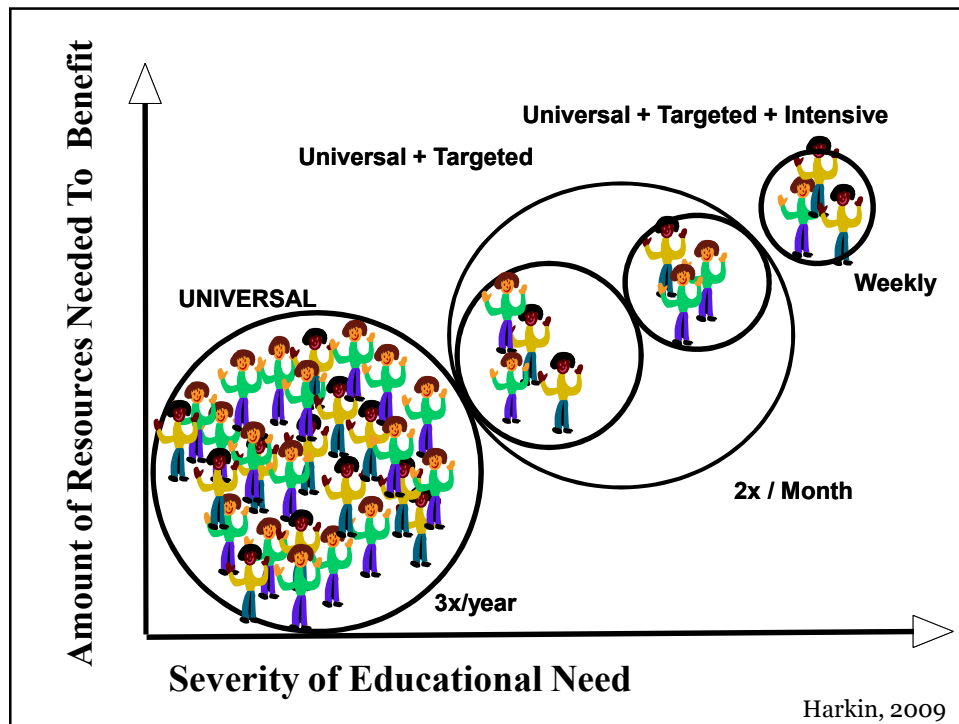 - **Interactions** between these other variables

Target communication objectives throughout day rather than at discrete times

– *Considers range of conversational partners, familiar and non-familiar*

– *Emphasizes peer interaction (requesting assistance getting on swing)*

– *Choice making 'program' vs. opportunities to make choices all day long*

– *Use of instructional matrices*
  - Useful in systematically targeting goals and objectives in context of general education (Calculator, 2000; Cushing et al. 2005)

What I'm about to tell you…

1. NH's data on student characteristics and provision of assistive technology/augmentative communication is consistent with others'.
2. History of the field of augmentative communication informs our actions and choices today:
   – Sorting students by symbolic level lowered expectations; importance of high expectations
   – Students CAN learn to use symbols
   – Students CAN learn to communicate with symbols while learning general academics
3. We have only a few models for how to close the "research-to-practice" gap for these students
   – Initial findings are very promising

Designing Schoolwide Systems for Student Success

Academic Instruction (with fidelity measures)

Behavioral Instruction (with fidelity measures)

Reduces Numbers of Students

Increases Levels of Support

Monitoring Student Progress

Tertiary Interventions
(for individual students)
• Assessment-based
• Resource Intensive

Secondary Interventions
(for some students: at-risk)
• Some individualizing
• Small Group Interventions
• High Efficiency
• Rapid Response

Universal Interventions
(for all students)
• Preventive, Proactive
• Differentiated Instruction
• Research Validated Curriculum

Tertiary Interventions
(for individual students)
• Wraparound Intervention
• Complex Multiple Life Domain FBA/BIPs

Secondary Interventions
(for some students: at-risk)
• Simple FBA/BIPs
• Group Intervention with Individual Features
• Group Intervention

Universal Interventions
(for all students)
• Direct Instruction of Behavioral Expectation
• Positive Acknowledgement

Screen All Students

RtI conceptual system with general and special education integrated at all three levels

Sailor, 2009

Amount of Resources Needed To Benefit

Universal + Targeted + Intensive

Universal + Targeted

UNIVERSAL

Weekly

Weekly-Monthly

3x/year

Severity of Educational Need

Harkin, 2009

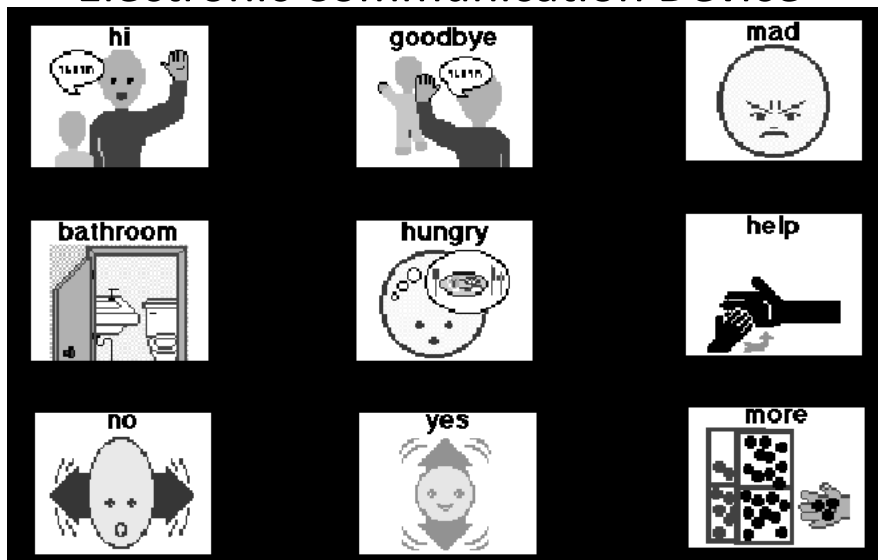Harkin, 2009

- Stephen
- Jack
- Timmy
- Cheyenne
- Sara

Case Study: Jack
(Sonnenmeier, McSheehan, & Jorgensen, 2005)

- 4th grade, age 10
- Participates in NH AA-AAS
- Autism
- Initial communication system:
  – gestures (2 finger pt.)
  – some signs, vocalizations
  – Electronic device (9 messages)

- **Described by team: "Jack functions at the 2 yr. level"**
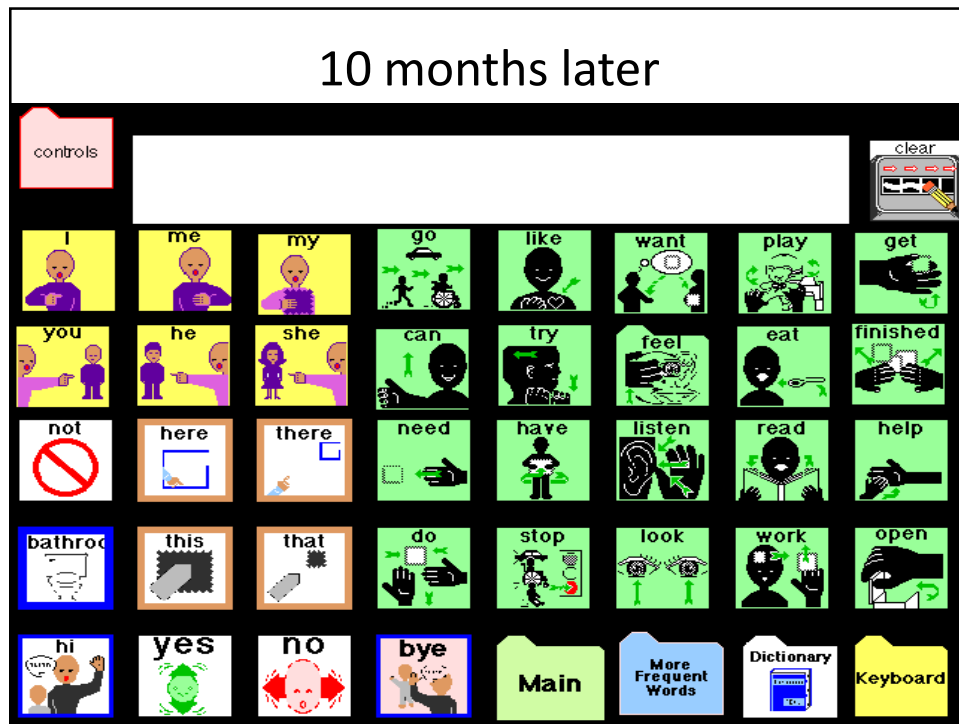
Baseline –
Electronic Communication Device

Enhancing Communication Through Participation in Academics

Device with 9 messages for Social Studies

10 months later

Classmate Paired Reading with Symbol Enhanced
Grade-level Text Rewritten to Lower Reading Level

During paired reading, literate peers read aloud and silently with modified text

Independent Silent Reading

Jack with
modified
text. Began
showing
more
emergent
reading skills,
including
vocalizing
while
touching
individual
words.

Cheyenne

BEYOND
ACCESS

- 8 yr
- Rural town – home based, medically fragile

- Only in school about 20% of the time - video conferencing from home

- Mitochondrial Disorder, Seizures, CVI, G-tube, Wheel Chair – perceived significant cognitive disability ("untestable")

Cheyenne: Reading

- Cheyenne in home program, using video conferencing to participate.
- During independent reading activities, Cheyenne uses 2 switches to read: one to flip pages in individualized books; one to comment on books with preprogrammed messages.
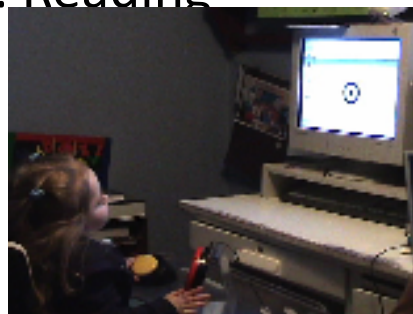
Cheyenne Lessons & Update (4 yrs later)

- Communication (AAC) impacts perceptions of student competence. (symbolic levels CHANGE when we teach!)

- Systematic Problem Solving approach paired with High Expectations

- 2.5 years to identify and develop primary, reliable response

- Now in 8th grade and has been put on the general assessment with accommodations

What just told you…

1. NH's data on student characteristics and provision of assistive technology/augmentative communication is consistent with others'.
2. History of the field of augmentative communication informs our actions and choices today:
    – Sorting students by symbolic level lowered expectations; importance of high expectations
    – Students CAN learn to use symbols
    – Students CAN learn to communicate with symbols while learning general academics
3. We have only a few models for how to close the "research-to-practice" gap for these students
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